

**Thomas Hartung**  
**Prof. Dr.Dr.med. (MD PhD)**



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Place of birth: Solingen, Germany

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**Personal Statement**

As a biochemist and physician, I pursue cellular and molecular research into diseases to ultimately support testing strategies for drugs and chemicals. My work spans from pharmacology / toxicology to molecular microbiology and immunology with a special focus on the development of cellular methods and their quality control. As professor of pharmacology at the University of Konstanz (1994-), I have worked on supportive therapies to cancer treatment (Neupogen), inflammatory processes infectious diseases and cytokine therapies. With the experience of leading the European Commission's validation body for alternatives methods (2002-2008) and holding since 2009 a chair for Evidence-based Toxicology, I am interested in the development and quality-control of *in silico* and *in vitro* tools and their integration into testing strategies. As PI, I headed until March 2017 the Human Toxome project funded as an NIH Transformative Research Grant, which develops the tools for pathway identification from multi-omics approaches. We focus on organotypic cell cultures (microphysiological systems) of the brain, the integration of metabolomics and transcriptomics and making sense by bioinformatics of the "big data" to deduce pathways of toxicity. A key development was a highly standardized human brain organoid, developed with NIH NCATS funding, which is currently commercialized via AxoSim, New Orleans, which took over my spin-off Organome LLC. The model has been used for a number of viral, neurodevelopmental, neurodegenerative, neurotoxic and other disease models. In 2020, we showed first with this model that SARS-CoV-2

infects human brain cells. Most recently, we created the Organoid Intelligence (OI) initiative. Our work toward Good Read-Across Practice led us to create the largest toxicological database to date and employing machine learning, we recently developed a novel read-across-based structure activity relationship (RASAR), which outperformed the reproducibility of nine OECD guideline animal tests. I have hosted a number of conferences (WC7, PanAm 1 & 2, DNT-4, ESTIV 2018, MPS World Summit 2022, 2023, 2024) with 200 – 1300 participants and authored more than 750 scientific publications, which were cited more than 54,000 times (h-factor 126). My toxicology classes on COURSERA were taken by more than 22,000 active learners.

## **Major Achievements**

1991	Model of liver inflammation (endotoxin-inducible cytotoxicity in Kupffer cell / hepatocyte cocultures)
1995	Discovered the anti-inflammatory effects of G-CSF in humans leading to new indications for Neuprogen and multiple clinical trials
1995	Invented whole blood pyrogen test accepted by European and US Pharmacopoeia, FDA and others
1996	Started Good Cell Culture Practice, ECVAM guidance document 2005, completed 2022 the adaptation to technical progress in version 2.0
2001	Identification of Lipoteichoic Acid as the Gram-positive endotoxin
2002-2008	Head of the European Centre for the Validation of Alternative Methods (ECVAM) of the European Commission in Ispra, Italy; the validation studies initiated led so far to 20 OECD test guidelines and 2 guidance documents as well as one European & US Pharmacopoeia monograph
2006	Started Evidence-based Toxicology (EBT) with first conference 2007 (Como, Italy), Chair for EBT at Johns Hopkins in 2009 and hosting the secretariat of the EBT Collaboration since 2011
2016	First mass-produced standardized human mini-brains from stem cells; leveraged to first show SARS-CoV-2 infection of brain cells (2020)
2018	Read-across based structure activity relationships (RASAR), i.e. a combination of Big Data and artificial intelligence, outperforms nine animal tests for hazard assessment; accepted for Australian chemical legislation 2020
2023	Creating the Organoid Intelligence (OI) initiative
2024	Starting the Human Exposome Moonshot project with a stakeholder forum planned for May 2025 in Washington, DC

## **Career History**

2009 – today	<b>Doerenkamp-Zbinden Chair for Evidence-based Toxicology</b> , Johns Hopkins University, Bloomberg School of Public Health, Dept. Environmental Health & Engineering, Baltimore, USA <b>Director Center for Alternatives to Animal Testing (CAAT)</b> ,
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Joint appointment **Whiting School of Engineering**, Johns Hopkins University (2014-)

- Joint appointment as **Professor for Molecular Microbiology and Immunology**, Johns Hopkins Bloomberg School of Public Health (2010-)
- **Faculty affiliate of the Wendy Klag Center for Autism and Developmental Disabilities** (WKC), Johns Hopkins Bloomberg School of Public Health (2024-)
- Faculty affiliate of Graduate Training Program in **Cellular and Molecular Medicine** Johns Hopkins School of Medicine (2023-)
- Affiliate Adjunct Professorship, **Georgetown University**, Environmental Metrology and Policy Program (2019-)
- Special Government Employee for EPA's FIFRA Scientific Advisory Board (2024-)
- Member of the **Johns Hopkins Data Science and AI Institute** (DSAI) (2025-)
- Member of the Johns Hopkins Bloomberg School of Public Health **Health Innovation Translation Council** (2025-2027)
- Founder Organome LLC ([www.organome.us](http://www.organome.us)), 1812 Ashland Ave, 21205 Baltimore, MD, (2016-2019), acquired 2019 by AxoSim
- Consulting Vice-President of Scientific Affairs AxoSim, recently renamed 28Bio, New Orleans (2019-)
- Member International Board of the European "Partnership for the Assessment of Risks from Chemicals", PARC, Horizon Europe Project, deputy head toxicology of the German National Hub
- Consultant AstraZeneca, Underwriters Laboratories (UL), American Type Culture Collection, InSphero, Biomerieux, Apellis Pharmaceuticals, ToxTrack Inc, Insilica LLC, Merck-Millipore, Ipsen Pharmaceuticals, Janssen Pharmaceuticals, Bayer, Johnson & Johnson, Exxonmobil, SANOFI, Boehringer Ingelheim, Crown Bioscience, Merck Sharp Dome,
- Coleader (with Dr. Anne Le) Metabolomics Program, Johns Hopkins University, School of Medicine, Institute for Clinical and Translational Research, 2017-2019
- PI NIH Transformative Research project "Mapping the Human Toxome by Systems Toxicology"
- PI FDA "Identification of pathways of developmental neurotoxicity for high throughput testing by metabolomics"
- PI NIH National Center for Advancing Translational Sciences "A 3D model of human brain development for studying gene/environment interactions"
- PI of subproject NIH National Institute for Environmental Health

Sciences “Genetic Susceptibility to Asthma and Indoor Air Pollution in Peru”

- PI of subproject DTRA “INteGratedOrganoid Testing System (INGOTS)”
- co-PI NIH “Harmful Constituents and Respiratory Effects of Waterpipe Smoke”
- co-PI EPA “Multiplexed human BrainSphere Developmental Neurotoxicity test for six key events of neural development”
- PI Johns Hopkins Discovery Grant “Organoid Intelligence (O.I.) - towards biological computing” (2023-2025)
- PI and work-area leader Artificial Intelligence, European Commission, ONTOX project “Ontology-driven and artificial intelligence-based repeated dose toxicity testing of chemicals for next generation risk assessment”
- Co-ordinator Trans-Atlantic Think Tank of Toxicology (t<sup>4</sup>) ca. 40 International workshops and >50 reports and white papers
- Coorganizer of the 2017 *Brussels declaration on ethics & principles for science & society policy-making* involving 300 participants
- American editor ALTEX (2009-2012), Coeditor Frontiers in Toxicology (2011-2012), Editor in Chief of Medicine and Public Health in Frontiers in Big Data and Frontiers in Artificial Intelligence (2018-), Field Editor in Chief for Frontiers in Artificial Intelligence (2019-)
- Organizer 1<sup>st</sup> PanAmerican Conference for Alternative Methods, Baltimore, 2016, co-organizer Rio de Janeiro 2018 and Niagara, Canada, 2023
- Co-organizer (with Dr. M. Vinken and Dr. R. Landsiedel) of the ESTIV 2018 conference, Berlin, Germany
- Co-organizer Developmental Neurotoxicity Conferences (DNT I – V in 2006, 2008, 2011, 2014, 2024)
- Main Organizer and co-host 1<sup>st</sup> Microphysiological Systems World Summit 2022 (with co-hosts Dr. Suzanne Fitzpatrick, FDA, and Dr. Don Ingber, Harvard), New Orleans; co-organizer Microphysiological Systems World Summits in Berlin 2023 and Seattle 2024
- Apple Advisory Board Green Chemistry (2015-)
- Board of Trustees International Life Sciences Institute (ILSI) North America, renamed 2021 to Institute for the Advancement of Food and Nutrition Sciences (IAFNS) (2018-2024)
- Board member European Consensus Platform for Alternative Methods (ECOPA, 2009-2015); founding board member American Society for Cellular and Computational Toxicology board member Alternative Congress Trust (currently treasurer);

vice-president Doerenkamp-Zbinden Foundation (2023-2025 president)

- Special Government Employee US-EPA for their Scientific Advisory Board for Chemicals (2018-2019)
- Appointed Expert Advisor for National Institutes for Food and Drug Control (NIFDC), China (2018-)
- US Department of Defense, Basic Research Office, Office of the Under Secretary of Defense for Research & Engineering, “Advancing the Next Scientific Revolution in Toxicology”, main organizer, 2023
- Winner National Science Foundation idea competition (EFRI) for an Engineering Organoid Intelligence program.
- Member International Advisory Board for PARC (Partnership for Assessment of Risk of Chemicals, a ~\$500 million EU project); Vicechair Toxicology of the German National Hub
- Special Government Employee (SGE) for US EPA for their Scientific Advisory Board for FIFRA (2024-)
- Winner NIH Complement-ARIE Idea Competition for project “*E-validation – Unleashing AI for Validation*”, project “*NAMKG: LLM Powered Registry To Foster NAM Adoption*” and project “*Organoid Intelligence (OI) - Learning in a Dish*”
- more than 450 scientific papers since 2009 (total more than 730) including Nature, Nature Medicine, Science, Nature Protocols, Cell Metabolism, Arch. Toxicol., Toxicol., Tox. Sciences, Tox. Appl. Pharmacol., Tox. Lett., J. Immunol., Immunobiol., Neurotox., PNAS, Scientific Reports

2008-2009

**Head of unit TRiVA** (European Commission, Traceability, Risk and Vulnerability Assessment unit, Institute for the Protection and the Security of the Citizen, JRC Ispra, Italy)

- management of 60 staff members
- responsible for vulnerability assessment in transport distribution systems, integration and testing of supply chain technologies, development and validation of nuclear traceability and sealing systems, risk analysis for industrial accidents and natural disasters as well as monitoring, control and traceability in the food chain
- more than 30 scientific papers in 2008 including J. Immunol., Eur. J. Immunol., Neurotox.

2003 – today

**Full Professor of Pharmacology and Toxicology**, University of Konstanz, Germany

- Co-director CAAT-EU (with Prof. Marcel Leist) since 2010

2002 to 2008

**Head of unit ECVAM** (European Centre for Validation of Alternative Methods, Institute for Health and Consumer Protection, JRC Ispra, Italy)

- management of 60 staff members, strategic resource management according to Staff Regulation and financial resources according to Financial Regulations
- restructured service in response to chemicals, cosmetics and pharmaceuticals legislation
- more than 170 scientific papers since 2002 including Nature, PNAS, Scientific American
- coordination of REACH test strategy development for chemical effects on health and the environment on behalf of the Commission (18 months, >200 experts)
- developed concept of an Evidence-based Toxicology; first conference organised 10'07 (<http://www.ebtox.org/>)
- accelerated validation process, currently about 170 tests under validation, 40 at late stages, 9 validated in 2006, 5 in 2007 (compared to 16 within first 10 years of ECVAM)
- established network of 600 experts from all stakeholder groups (about 350 organisations); International harmonisation US ICCVAM and OECD
- initiated 17 competitive projects (> 110 million €, > 300 partner organisations)
- regular press coverage (3 press conferences, 3 press releases, > 600 media reports – about 200 in 2006, article on ECVAM in Nature 2005, 438:144-146)
- short-listed as second for the post of the Director of the JRC Institute for Health and Consumer Protection

1994-2002

**Assistant & Associate Professor, Biochemical Pharmacology,**

University of Konstanz, Germany

- more than 100 scientific papers including J. Experimental Medicine, J. Immunology, Blood
- 5 patents, 3 licensed (two for drug safety, one for measuring air pollution)
- established research group of 35 people
- > 6 million € competitive funding including two EU projects (one coordinated)

1996-2002

**CEO of the Steinbeis Technology Transfer Center for In Vitro Pharmacology and Toxicology (InPuT)**

- > 80 contracts with companies in 8 countries
- four EU projects (one coordinated)

### **Education, Boards and Committees**

- 1979-1984** Part-time work as computer programmer at CVG, Solingen
- 1982-1986** Student of informatics and mathematics at the Mathematical Faculty of the University of Hagen, Germany
- 1983-1984** Community service teaching environmental policy to young people and adults, Liberales Bildungswerk, Düsseldorf and Wuppertal
- 1984-1989** Student of Biochemistry at the Chemical Faculty of the University of Tübingen, Germany
- 1985** Internship at BAYER, Leverkusen (2 months)
- 1986-1992** Student at the Medical Faculties of the Universities of Tübingen and Freiburg, Germany  
Practical at the Max-Planck-Institute for Developmental Biology, Tübingen (1 year)
- 1988** Internship at the Institute for Toxicology, Society for radiation and environment research (GSF), Munich (2 months)  
Certified training in animal experimentation and radiation protection
- 1989** Diploma in Biochemistry, specialisation toxicology, University of Tübingen, Germany
- 1990** Practical at the China Academy of Chinese Medicine, Beijing (3 months)
- 1991** Dr.rer.nat. (= Ph.D) at Prof. Wendel's laboratory in Konstanz, Germany (Biochemical Pharmacology): "Endotoxin-inducible cytotoxicity in liver cell cultures"  
Medical Internship at the University of Freiburg
- 1992** Post-doctoral scientist at the University of Konstanz  
Dr.med. (= M.D.) at Prof. Bock's laboratory in Tübingen (Toxicology): "Mono- und Diglucuronid-Bildung von Benzpyren-3,6-chinol durch Lebermikrosomen von Ratte und Mensch"
- 1992-1994** Specialisation in Surgery at the hospital of Singen, Germany (Head Prof. Rühlend)  
Voluntary work as emergency physician at the University (until 2002)
- 1995-1999** Coordination and participant of EU Standards, Measurements and Testing projects, PL95-3407 and SMT4-CT96-2070: Development of a Standardised In Vitro Methodology for Hepatic and Renal Toxicity Testing
- 1997** Permission to work with human pathogens
- 1998-2002** Member of the Senate of the University of Konstanz
- 1998-2005** Responsible for narcotics at the University of Konstanz
- 1999** Associate Professor, non-tenure-track lecturer (Habilitation) for pharmacology and toxicology  
Chairman of the ECVAM taskforce Good Cell Culture Practice  
Editorial Board ALTEX (Alternativen zu Tierexperimenten)
- 2000** Organiser of the ECVAM Workshop "Novel Pyrogen tests based on the

- human fever reaction”, Konstanz
- 2000-** Editorial Board ATLA (Alternatives to Laboratory Animals)
- 2000-2002** Coordination of an EU Management of Living Resources project
- 2001** Specialization Immunology (Fachimmunologe, German Society for Immunology)
- Member of ISO and DIN Committees for Biological Testing of Medical Devices
- Vicepresident of the Middle-European Society for Alternatives to Animal Experiments
- 2002-2009** Editorial Board Immunobiology
- 2002-2006** Member Ethical Board University of Konstanz
- 2003** Honorary full professor at the University of Konstanz
- Member of the Scientific Board of the Center for Alternatives to Animal Testing (CAAT) at the Johns Hopkins University, Baltimore, US
- Member of the Scientific Board of the Institute for In Vitro Sciences (IIVS), Gaithersburg, US
- 2003-2008** Ad-hoc member of the Scientific Advisory Committee on Alternative Toxicological Methods (SACATM) of the US National Toxicology Program
- 2004-2008** Member of the US Scientific Advisory Committee for Alternative Test Methods to the National Toxicology Program
- 2005-** Vice-president of the board of the Doerenkamp-Zbinden Foundation, Switzerland, President 2023-2025, now board member
- Evaluator German Environment Agency (Umweltbundesamt) for German Research Council (Wissenschaftsrat)
- 2009-2010** Member of the US National Academy of Science committee for animal models for assessing countermeasures to bioterrorism agents
- 2013** Editorial Board PeerJournal, Chemical Research in Toxicology (2013-2018)
- 2014** Editorial Board Journal of Applied Toxicology, Current Environmental Health Reports and Journal of Applied In Vitro Toxicology
- 2015-** Apple Green Chemistry Advisory Board
- 2016-** Underwriters Laboratory (UL) consultant for computational toxicology
- 2016-2017** Cofounder Organome LLC (Delaware)
- 2016-2019** Founder Organome LLC (Maryland)
- 2017-2022** Consultant AstraZeneca
- 2017** Co-organizer (leader workgroup “what we expect from scientists”) of a collective “*Ethics & Principles of Science & Society Policy-Making: The Brussels Declaration*”, <http://www.sci-com.eu/main/>, and African counterpart, Cape Town
- 2018-** Editor in Chief Section Medicine and Public Health for Frontiers in Big Data and Frontiers in Artificial Intelligence

<b>2018-2020</b>	Swiss 3R Competence Centre (3RCC) Scientific Advisory Board
<b>2018-2019</b>	EPA Scientific Advisory Committee for Chemicals (SACC)
<b>2018-2020</b>	Scientific Advisory Committee R2N – Reduce and Replace based in Lower Saxony
<b>2019-</b>	Field Chief Editor Frontiers in Artificial Intelligence
<b>2020-</b>	Affiliate of the Johns Hopkins Center for Global Health (CGH)
<b>2020-</b>	Consultant American Type Culture Collection
<b>2020-</b>	InSphero, Switzerland, scientific advisory board
<b>2022-</b>	Founding editorial board member Evidence-based Toxicology
<b>2024-</b>	EPA Scientific Advisory Committee for Pesticides (FIFRA)

### **Awards**

1976-1981 Multiple awards on federal state (Nordrhein-Westfalen) level for 8 research projects mainly on ecotoxicological projects in the competition “Jugend forscht”; twice special award “Youth researches the environment “

1985 Award of the Eheleute-Carl-Rust-Foundation for excellent students

1993 Research Award for replacing animal experiments from the German Ministry of Health

1993 Research Award for replacing animal experiments from the European F.I.S.E.A. Foundation, Luxembourg

1995 Sandoz Award for therapeutically relevant pharmacological research

1996 Doerenkamp/Zbinden Award for replacement of animal experiments

1997 Young-Investigator-Award of the World-Inflammation-Congress, Tokyo

2001 Business Innovation Award of the region lake Konstanz for the development of an alternative pyrogen test

2002 RIVM Award at the World Conference on Animal Use and its Alternatives

2003 Environment Award of the Landesbausparkasse Baden-Wuerttemberg

2004 Steinbeis Technology Transfer Award

2005 Paula and Richard von Hertwig-Preis for interdisciplinary collaboration

2005 16<sup>th</sup> most cited German pharmacologist, 30<sup>th</sup> most cited German immunologist (Laborjournal)

2006 US Society of Toxicology Enhancement of Animal Welfare Award

2008 / 2009 / 2010 ALTEX award for the article series “Food for thought...”

2009 2<sup>nd</sup> most cited German pharmacologist, 6<sup>th</sup> most cited German immunologist (Laborjournal)

2009 Russel & Burch award of the Humane Society of the US

2010 ALTEX award for voted best article

2010 Agilent Thought Leader award

2014 ACT4ANIMALS EuroGroup for Animals – Animal Welfare Award  
2014 LUSH award: Lobbying Prize  
2015 8<sup>th</sup> most cited German toxicologist (Laborjournal)  
2017 Björn Ekwall Memorial Award of the Scandinavian Society for Cellular Toxicology  
2018 Award of the Hellenistic Society of Toxicology  
2020 Ursula Händel Animal Welfare Prize 2020 for Alternative Methods to Animal Experiments by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation)  
2020 Doerenkamp-Zbinden Award  
2020 Honorary membership Swiss Ärztinnen und Ärzte für Tierschutz in der Medizin (ATM) – physicians for animal protection in medicine  
2021 9<sup>th</sup> most cited German toxicologist (Laborjournal)  
2020/2021 Merit Award by EuroTox  
2023 Mid-Atlantic Society of Toxicology (MASOT) Ambassador Award  
2025 German Society of Toxicology Award  
2025 Peter-Singer Award for Strategies Reducing Animal Suffering

#### **Memberships in Scientific Societies:**

- German Society for Clinical and Experimental Pharmacology and Toxicology (DGPT) (since 1989); founding member of the study group *Immunotoxicology* (1997)
- German Society for Biological Chemistry, now German Society for Biochemistry and Molecular Biology (1990-2025)
- Founding member of the study group *In-vitro Pharmacology and Toxicology* of the German Society for Cell and Tissue Culture (1993)
- German Society for Immunology (since 1995)
- Society for Inflammation Research (1995-2002)
- European Society for Alternatives to Animal Experiments (MEGAT, then EUSAAT) (since 1996, Vice-president 2001-2013)
- European Society of Clinical Microbiology and Infectious Diseases (1996-2006)
- Immunocompromised Host Society (1997-2002)
- German Society for Cell Biology (since 1997)
- German Society for Hygiene and Microbiology (since 1998)
- German University Teacher Association (since 1999)
- American Society for Microbiology (since 2000).
- German Association of Engineers VDI (2001-2005)

- Shock Society (since 2001)
- European Society for Toxicology In Vitro (since 2004)
- American Society of Toxicology (since 2005)
- British Toxicology Society (since 2007)
- American Society for Cellular and Computational Toxicology (since 2010, board member)
- Metabolomics Association of North America (since 2018)
- Society of Environmental Toxicology and Chemistry (SETAC) (since 2019)
- European Organ-on-Chip Society (EUROoCS) (since 2019)
- Società Italiana Tossicologia (since 2021)
- Sigma Xi Scientific Research Honor Society (since 2024)
- International Microphysiological Systems Society (IMPSS) (since 2024)
- Society for Alternatives to Animal Experiments-India (SAAE-I) (nominated member and International Advisor)
- Biomedical Engineering Society (since 2024)
- The Academy of Public Health (since 2025)

### **Teaching participation**

#### **University of Konstanz**

- 1989-2008 Practical 'Biochemical Pharmacology'
- since 1990 occasional substitution for Prof. A. Wendel in the Lecture 'Biochemical Pharmacology' (2 h per week), 1998-2008 formal participation in this lecture, since 2009 'Pharmacology and Toxicology'
- 1994-2005 Schopper/Gruber/Hartung/Kuhlmann 'Alternatives to Animal Experiments'
- since 1995 'Introduction into Medicine I & II'
- 1998-2008 'Human Biology'
- 1998-2002 Practical 'Immune function tests'
- 1998-2002 Practical 'Organ models'
- 2002-2004 'Biomedicine'
- since 2009 'Disease Biology'

#### **Johns Hopkins University**

- since 2009 Goldberg/Locke 'Humane Science'
- since 2010 'Molecular Toxicology'
- since 2011 'Bacteriology'
- since 2013 'Introduction Environmental Health Sciences'

- from 2016 'Toxicology for the 21<sup>st</sup> Century – Applications' (13 lectures)
- from 2016 'Evidence-based Toxicology' (13 lectures)

#### **Coursera**

- from 3'2018 'Toxicology for the 21<sup>st</sup> Century – Applications'
- from 11'2018 'Evidence-based Toxicology'

#### **Supervised / (co-supervised) PhD students**

##### **Johns Hopkins**

Harris, Georgina; Luechtefeld, Thomas; Maertens, Alexandra; (Negherbon, Jesse); Stubenhaus, Bradford; (Zhong, Xiali); Tran, Vy; Golden, Emily; (McCormack, Amanda); Kincaid, Breanne; Alam El Din, Dowlette-Mary; (Virmani, Ishita); Rittenhouse, Alex; Kim, Allen; Lee, Priscilla; Wang, Yifei; Laird, Jason; Penn, Aliyah; Xiu, Lixuan; Zhang, Jingyi; Mohapatra, Ronit; Ukaegbu, Daniel; Antonio Ortega

##### **Radboud University, The Netherlands**

(Hansell, Carl Magnus Love Armfelt); (Watson, Justine)

##### **University of Konstanz**

Adler, Sarah; Bogni, Alessia; Borisova, Marina; Bunk, Sebastian; Campi, Valentina; Daneshian, Mardas; Dehus, Oliver; (Delp, Johannes); Deininger, Susanne; Diterich, Isabel; Draing, Christian; Ferrario, Daniele; Gueinzius, Katja; Hasiwa, Marina; Hoffman, Sebastian; Kinser, Agnieszka; Langezaal, Ingrid; (Michelfelder, Stefan); Morath, Siegfried; Müller, Markus; (Müller, Stefanie); Munaro, Barbara; Pellizer, Cristian; (Pusch, Jacqueline); Rauter, Carolin; Rockel, Christoph; (Sauer, Achim); Schindler, Stefanie; (Seitter, Julia); Sigel, Stefanie; Stummann, Tina; Traub, Stephanie; (Usmani, Shariq); von Aulock, Sonja; Van Vliet, Erwin; Wolfbeisz, Chiara

##### **Postdocs supervised:**

**Johns Hopkins University**, Baltimore, USA: Mounir Bouhifd, Oezge Cemiloglu Ulker, Antonia Egert, Emily Golden, Kathrin Herrmann, Helena T. Hogberg, Andre Kleensang, Carolin Krall, S.B. Leite, Tom Luechtefeld, Alexandra Maertens, Sergio Modafferi, Itzy E. Morales-Patoja, Yusaku Nishidoi, David Pamies, M.R. Pereira, Sam P. Piechota, Felix E. Rivera-Mariani, E. Rivera, Rita Sá, Vanessa Sá-Rocha, Lena Smirnova, Marize Valadares, Erwin van Vliet, Liang Zhao

**European Centre for the Validation of Alternative Methods**, Italy: C. Borlon, A. Bulgheroni, Chantra Eskes, Alessandra Gennari, Lars Hareng, Marina Hasiwa, Sebastian Hoffmann, Agnieszka Kinsner-Ovaskainen, Andre Kleensang, Daniela Maurici, Siegfried Morath, Costanza Rovida

**University of Konstanz**, Germany: Eva-Maria Boneberg, Mardas Daneshian, Isabel Diterich, Stefan Fennrich, Lars Hareng, Marina Hasiwa, Corinna Hermann, Ilona

Kindinger, Martin Lehner, Francesca Mazzotti, Siegfried Morath, Giorgia Palocca,  
Carolin Rauter, Stefanie Schindler, Ingo Spreitzer, Sonja von Aulock

# Thomas Hartung Publication List December 2025

760 Papers (650 in 189 Medline-listed Journals with Impact-Factors 2022/2023, total IF 4103.7)

h-index: 127 with over 55,000 citations (Google Scholar)

## Statistics

### Top 10 journals

Nature (IF 69.5): 3 articles

Nature Medicine (IF 58.7): 1 article

Science (IF 47.7): 1 article

Circulation (IF 39.9): 1 article

The Innovation (IF 32.1): 1 article

Cell Metabolism (IF 31.4): 1 article

American Journal of Respiratory and Critical Care Medicine (IF 30.5): 1 article

Journal of Hepatology (IF 30.1): 1 article

Blood (IF 22.1): 4 articles

Trends in Biotechnology (IF 21.9): 1 article

### 10 most frequent journals

ALTEX (IF 6.3): 205 articles

ATLA (IF 1.3): 34 articles

Arch. Toxicol. (IF 6.2): 21 articles

J. Immunol. (IF 5.4): 19 articles

Toxicol. In Vitro (IF 3.7): 12 articles

Infect. Immun. (IF 3.1), Tox. Sci (IF 4.1), Human Exp. Toxicol. (IF 3.3), J. Biol. Chem. (IF 4.7): 10 articles

J. Immunol. Meth. (IF 2.2): 8 articles

## 2025

1. Alam El Din D-M, Monkemoller L, Loeffler A, Habibollahi F, Schenkman J, Mitra A, van der Molen T, Ding L, Laird J, Schenke M, Johnson EC, Kagan BJ, **Hartung T** and Smirnova L. Human Neural Organoid Microphysiological System Shows the Building Blocks Necessary for Basic Learning and Memory. *Nature Communications Biology*, 8, 1237 (2025). Doi: 10.1038/s42003-025-08632-5 (IF 5.2)
2. Bar-Kochba E, Carneal CM, Alphonse VD, Timm AC, Ernlund AW, Rodriguez CL, Morales Pantoja IE, Smirnova L, **Hartung T**, and Merkle AC. Advancing Next-Generation Brain 1 Organoid Platforms for Investigating Traumatic Brain Injury from Repeated Blast Exposures. *Frontiers in Bioengineering and Biotechnology* 2025, 13:1553609. doi: 10.3389/fbioe.2025.1553609 (IF 4.3)
3. Bearth A, Kopainsky B, Jones LB, Vist GE, Husøy T, Svendsen C, Whaley P, Hoffmann S, Ames HM, Solstad G, Bloch D, Čavoški A, Chiu WA, Davenport M, Davies HG, Giusti A, **Hartung T**, Kwon S, Osborne OJ, Rooney AA, Rousselle C, Sass JB, Thayer KA, Wright FA, Mathisen GH. Exploring Experiences of the Regulatory Toxicology System – System-Level Promoters and Inhibitors of New Approach Methodologies. *Archives in Toxicology* 2025, in press. (IF 6.2).
4. Beken S, Bouhifd M, Calzolari L, Carrillo C, Chan J, Chan JSH, Chownk M, Clevert D-A, Collins T, de Seze G, Dorne JL, Fang H, Fitzpatrick S, Geng X, das Neves CG, Griesinger C, **Hartung T**, Hirabayashi Y, Honma M, Hugas M, Kass GEN, Kiyoshi M, Kleinstreuer N, Lanzoni A, Li B, Löffler Pérez N, Manickavasagan A, Mouawad L, Muldoon Jacobs K, Mura M, Okubo Y, Patterson T, Slikker B, van der Water B, Whelan M, Xu J, Yamada T, Yamazaki D, Yasuda T, Yeo CWS, Yu D, Zhao Y and Tong W. Emerging Technologies for Food and Drug Safety: Proceedings of the 13th Global Summit on Regulatory Science (GSRS23). Submitted.
5. Bhuller Y, Hilton GM, Avey M, Marles RJ, Trombetti S, **Hartung T**, Deonandan R, and Krewski D. Ethical principles for regulatory risk decision-making. *Regulatory Toxicology and Pharmacology* 2025, 159:105813. Doi: 10.1016/j.yrtph.2025.105813 (IF 3.6)

6. Blum J, Brüll M, Hengstler JG, Dietrich DR, Gruber AJ, Dipalo M, Kraushaar U, Mangas I, Terron A, Fritsche E, Marx-Stoelting P, Hardy B, Schepky A, Escher SE, **Hartung** T, Landsiedel R, Odermatt A, Sachana M, Koch K, Dönmez A, Masjosthusmann S, Bothe K, Schildknecht S, Beilmann M, Beltmann JB, Fitzpatrick S, Mangerich A, Morrison M, Tangianu S, Zickgraf FM, Kamp H, Burger G, van de Water B, White A, Kleinstreuer N and Leist M. The long way from raw data to NAM based information: Overview on data layers and processing steps. *ALTEX* 42:167-180. doi: 10.14573/altex.2412171. **(IF 6.3)**
7. Booker A, Zabetakis I, Teusch NE, Dalby A, **Hartung** T, and Peter AE. Editorial: Multisystem Inflammatory Syndrome observed Post-COVID-19: The Role of Natural Products, Medicinal Plants and Nutrients and the use of Prediction Tools Supporting Traditional Forms of Diagnosis. *Front. Pharmacol.* 2025, Sec. Ethnopharmacology, 16:1539793. doi: 10.3389/fphar.2025.1539793 **(IF 6.0)**
8. Caloni F, Cazzaniga A, Gutleb AC, **Hartung** T, Kandarova H, Meloni M, Pinteá A, Rashidi H, Wilflingseder D, and Buscarini A. New Approach Methodologies (NAMs): the strategic vision in Science. The Sixth Summer School Lake Como School of Advanced Studies, 14-15 May 2025. *ALTEX* 2025, *ALTEX* 2025, 42:731-732. **(IF 6.3)**
9. Celardo I, Aschner M, Ashton RS, Carstens KE, Cediél-Ulloa A, Cöllen E, Crofton KM, Debad SJ, Dreser N, Fitzpatrick S, Fritsche E, Gutsfeld S, Hardy B, **Hartung** T, Hessel E, Heusinkveld H, Hogberg HT, Hsieh J-H, Kanda Y, Knight GT, Knudsen T, Koch K, Kuchovska E, Mangas I, Marty MS, Melching-Kollmuss S, Müller I, Müller P, Myhre O, Paparella M, Pitzer E, Bal-Price A, Sachana M, Schlüppmann K, Shafer TJ, Schäfer J, Smirnova L, Tal T, Tanaskov Y, Tangianu S, Testa G, Ückert A-K, Whelan M and Leist M. Developmental Neurotoxicity (DNT): A Call for Implementation of New Approach Methodologies for Regulatory Purposes: Summary of the 5th International Conference on DNT Testing. *ALTEX* 2025, 42, 323-349. Doi: 10.14573/altex.2503191 **(IF 6.3)**
10. Chen R, Vantangoli MM, Boekelheide K, Yager JD, **Hartung** T, Fornace AJ and Li H-H. The Utilization of Estradiol and Endocrine Disruptor-Induced Transcriptomic Responses to Map Estrogen Pathways of Toxicity. Submitted
11. Coecke S, Panzarella G, van Rijn E, Firth J, Sarris J, Buckman JEJ, Solmi M, Toczyski P, Quéteíl CR, Kephelopoulos IS, Vignes M, Kourti N, Bobach C, Pladunova S, van Kamp I, Ronchi F, Pevere M, Gallo S, De Bernardi F, Briquet-Laugier V, Sachana M, Laureys S, Torres F, Palacios-Sanchez L, Cairney S, Morton Yo K, Charveriat C, Pang C, Verneti C, Baggio M, Kovacic M, Di Gioia R, Munoz A, Puertas-Gallardo A, Takki M, Gallo A, Alcaro S, Gawlik BM, Tavazzi S, Estreguil C, Lombardi I, Lipsa D, Hupont-Torres I, Petrillo M, Romeo P, Shade S, Barreda-Ángeles M, Bakogianni I, Maragkoudakis P, Ceresa M, Housen M, Peters B, Bostroem A-C, Kimanathi E, Zelenika M, Martens D, Orfei L, Querci M, **Hartung** T and Wiesenthal T. Digital Intelligence for Depression Governance: an Environome Framework to Bridge Research and Policy. *NPJ Digital Public Health*, submitted.
12. Cöllen E, Bartmann K, Blum J, Carstens K, Celardo I, Chatterjee N, Corvaro M, Dreser N, Fritsche E, **Hartung** T, Hogberg HT, Knudsen T, Koch T, Kreutz A, Lislien M, Magel V, Marty SM, Pallocca G, Bal-Price A, Rovida C, Sachana M, Shafer TJ, Smirnova L, Suciú I, Tanaskov Y, Tangianu S, Wolfbeisz C and Leist M. Mapping out strategies to further develop human-relevant, new approach methodology (NAM)-based developmental neurotoxicity (DNT) testing. *ALTEX* 2025, 42:204–223. doi: 10.14573/altex.2410112. **(IF 6.3)**
13. Conolly R, De Carvalho E Silva A, Dorne JL, Jones K, McNally K, Viant M, and **Hartung**. George Loizou Obituary. *Toxicology Research* 2025, 14:tfaf134, doi: 10.1093/toxres/tfaf134 **(IF 2.2)**
14. Debad SJ, Aungst J, Carstens K, Ferrer M, Fitzpatrick S, Fritsche E, Geng Y, **Hartung** T, Hogberg HT, Li R, Mangas I, Marty S, Musser S, Perron M, Rattan S, Rüegg J, Sachana M, Schenke M, Shafer TJ, Smirnova L, Talpos J, Tanguay RL, Terron A and Bandele O. JIFSAN-FDA Workshop Report: State of the Science on Assessing Developmental Neurotoxicity Using New Approach Methods. *ALTEX* 2025, 42:121–144. doi: 10.14573/altex.2410231. **(IF 6.3)**
15. Gant TW, Boxall A, Burgwinkel D, Jeddi MZ, Djidrovski I, Friedrichs S, Hardy B, **Hartung** T, Holland D, Karwath A, Kienhuis A, Kleinstreuer N, Lin Z, Marczylo EI, Marvuglia A, Qian H, van Ravenzwaay B, Rees P, Sarimveis H, Tralau T, Wilmot L, Zalewski A and Rouquie D. Building Trust in the Integration of Artificial Intelligence into Chemical Risk Assessment: Findings from the 2024 ECETOC Workshop. *Archives of Toxicology*, submitted.

16. Gao Y, Mughal Z, Jaramillo-Villegas JA, Corradi M, Borrel A, Lieberman B, Sharif S, Shaffer J, Fecho K, Chatrath A, Maertens A, Teunis MAT, Kleinstreuer N, **Hartung T**, and Luechtefeld T. BioBricks.ai: A Versioned Data Registry for Life Sciences Data Assets. *Frontiers in AI, section Medicine and Public Health*, 8:1599412. doi: 10.3389/frai.2025.1599412 **(IF 4.8)**
17. Hansell L, Ritskes-Hoitinga M, Visseren-Hamakers IJ, **Hartung T**, Bastos L, Hogervorst j and Pochat J. Howard White. Safety within REACH? A transition analysis for the European Commission roadmap to animal free safety assessment of industrial chemicals. Submitted.
18. Hansell L and **Hartung T**. Roadmap to Reduce Animal Testing – The EU Talks, the US Acts! *Frontiers Policy Lab 2025*, available at: <https://policylabs.frontiersin.org/content/commentary-roadmap-to-reduce-animal-testing>.
19. Hansell L and **Hartung T**. The Importance of Being Earnest: A 2025 Cross-Atlantic Turning Point in Phasing Out Animal Testing. *NAM Journal 2025*, in press.
20. **Hartung T**. Phasing In Human-Relevant Science: Why the UK’s Roadmap Matters—and How to Make It Work. *ALTEX 2025*, in press. doi:10.14573/altex.2511111 **(IF 6.3)**
21. **Hartung T** and Rovida C. Mechanistic Read-Across Comes of Age: A Comparative Appraisal of EFSA 2025 Guidance, ECHA’s RAAF, and Good Read-Across Practice. *Frontiers in Toxicology 2025*, 7:1690491. doi: 10.3389/ftox.2025.1690491 **(4.6)**
22. **Hartung T**, Smirnova L, Platz S, Amelio I and Leist M. The Need for Epigenotoxicity Testing. *ALTEX 2025*, 42:565-590. doi:10.14573/altex.2509281. **(IF 6.3)**
23. **Hartung T**. and Gstraunthaler G. Obituary: Univ.-Prof. Dr Walter Pfaller. *ALTEX 2025*, 42:564. **(IF 6.3)**
24. **Hartung T**. Book Review: “Lab Dog: A Beagle and His Human Investigate the Surprising World of Animal Research” by Melanie D.G. Kaplan. *ALTEX 2025*, 42:740. **(IF 6.3)**
25. **Hartung T**. Buchbesprechung: “Lab Dog: A Beagle and His Human Investigate the Surprising World of Animal Research” von Melanie D.G. Kaplan. *ALTEX Tierethik 2025*, 31:135-137. **(IF 6.3)**
26. **Hartung T**. The Economics of Alternatives to Animal Testing in Time of Transformation. In Batini N. (ed.). *The Economics of Non-Human Animals: Revaluing Life for a Liveable Planet*. Springer, in press.
27. **Hartung T**. NAMazing: MAHA finally names alternatives to animal testing the path to find causes of autism - now make the banner meet the bench. *NAM Journal 2025*, in press.
28. **Hartung T**, Ogg M, Robinson B and Johnson E. Applying Explainable AI to Understand Complex Biological Networks: Current Advances, Critical Limitations, and Future Opportunities, in preparation.
29. **Hartung T**. The Impact of FDA’s Animal Use Shift on the Future of Preclinical Testing. *Genetic Engineering & Biotechnology News 2025*, available at: <https://www.genengnews.com/topics/artificial-intelligence/the-impact-of-fdas-animal-use-shift-on-the-future-of-preclinical-testing/>
30. **Hartung T**, Weber W and Lee S-Y. Engineered living therapeutics - microbes designed to deliver therapies on demand. *World Economic Forum (WEF), Top 10 Emerging Technologies of 2025*, 19-20.
31. **Hartung T**. GLP-1s for neurodegenerative disease Activating brain pathways for longer, healthier lives. *World Economic Forum (WEF), Top 10 Emerging Technologies of 2025*, 22-23.
32. **Hartung T**. AI, Agentic Models and Lab Automation for Scientific Discovery – the beginning of scAInce. *Frontiers in AI 2025*, 8:1649155. doi: 10.3389/frai.2025.1649155. **(IF 4.8)**
33. **Hartung T**. How AI can deliver the Human Exposome Project. *Nature Medicine 2025*, 31, 1738. DOI: 10.1038/s41591-025-03749-w **(IF 58.7)**
34. **Hartung T**. The Turning Point: April 2025 Marks Historic Shift in US Animal Testing Policy, *ALTEX 2025*, 42:536–537. doi: 10.14573/altex.2504301. **(IF 6.3)**
35. **Hartung T** and Smirnova L. Body-on-chip systems and clinical biomarker discovery. In: Atala A and Zhang YS. *Body-on-a-Chip: Essentials and Applications*. Elsevier, in press.

36. **Hartung** T. NAMazing: Déjà Vu at the Lab Bench - Why Animal-Free Science is the New Automobile. *NAM Journal* 2025, 1:100022. Doi: 10.1016/j.namjnl.2025.100022.
37. **Hartung** T. After-dinner speech "Devil-mental neurotoxicity". *ALTEX* 2025, 42:350-1. Available from: <https://altex.org/index.php/altex/article/view/2955> (IF 6.3)
38. **Hartung** T. Die Rolle der Künstlichen Intelligenz (KI) bei der Überwindung von Tierversuchen. *ALTEX Tierethik* 2025, 17:15–53. Doi: 10.58848/tierethik.2025.1.15 (IF 6.3)
39. **Hartung** T and Smirnova L. A Path Forward Advancing Microphysiological Systems. *ALTEX* 2025, 42(2), 183-203. doi:10.14573/altex.2504091 (IF 6.3)
40. **Hartung** T, Luechtefeld T and Maertens A. The role of AI in overcoming animal testing. In: Van Norman G and Krebs C. *Moving Toward Nonanimal Approaches in Medical Research & Testing*. Elsevier 2024, in press.
41. **Hartung** T and Kleinstreuer N. Challenges and Opportunities for Validation of AI-based New Approach Methods. *ALTEX* 2025, 42:3-21. doi: 10.14573/altex.2412291 (IF 6.3)
42. **Hartung** T. Review of A HISTORY OF THE DEVELOPMENT OF ALTERNATIVES TO ANIMALS IN RESEARCH AND TESTING by John Parascandola. *ALTEX* 2025, 42:157-158. (IF 6.3)
43. **Hartung** T. Rezension von "A HISTORY OF THE DEVELOPMENT OF ALTERNATIVES TO ANIMALS IN RESEARCH AND TESTING" von John Parascandola. *ALTEX Ethik* 2025, in press. (IF 6.3)
44. **Hartung** T, Hoffmann S and Whaley P. Assessing Risk of Bias in Toxicological Studies in the era of Artificial Intelligence, *Archives in Toxicology* 2025, 99:3065–3090. Doi: 10.1007/s00204-025-03978-5 (IF 6.2)
45. **Hartung** T, Whelan, Tong W, and Califf RM. Is Regulatory Science Ready for Artificial Intelligence? *NPJ Digital Medicine* 2025, 8:200. Doi: 10.1038/s41746-025-01596-0 (IF 12.4)
46. **Hartung** T and Krewski D. Strengthening the 3Rs through advances in evidence integration. Submitted.
47. Krewski D, Saunders-Hastings P, Arzuga X, Autier P, Baan R, Barton-Maclaren T, Bertrand C, Browne P, Chiu W, Gapstur S, Gwinn, M, **Hartung** T, Hoffman S, Kraft A, Lammbert J, Ling B, Lewis J, Martino L, Momoli F, Morgan RL, Paoli G, Rhomberg L, Rooney A, Sand S, Schünemann HJ, Straif K, Thayer K, Tsaïoun K and Yauk C. Development of a Framework for Evidence Synthesis: Workshop Report. In preparation. (3.9)
48. Lein PJ, Bowman AB, Carson M, Fritsche E, Harry GJ, **Hartung** T, Pessah IN, and Smith MT. Proposed key characteristics of neurotoxic chemicals as a basis for hazard identification. *Neurotoxicology*, in press.
49. Liao AS, Alam El Din D-M, Peranich P, Penn A, Sagarç R, Machairaki V, Smith-Hicks C, **Hartung** T, Smirnova L and Johnson EC. Reservoir computing for comparative health analyses of neural organoids. Submitted.
50. Luechtefeld T and **Hartung** T. Navigating the AI Frontier in Toxicology: Trends, Trust, and Transformation. *Current Environmental Health Reports* 12:51. doi: 10.1007/s40572-025-00514-6 (IF 9.1).
51. Luechtefeld T, Wong H-L, Kim J, Lin N, Begum A, Tsaïoun K, Prawira A, Dai D, Chooback N, Nappi L, Samawi H, Lavoie J-M, Spreafico A, Hansen AR, Sahebjam S, Siu LL, Ivy SP, **Hartung** T, Renouf D, and Paller CF. Sysrev - semi automated systematic review to enhance biomedical information management. *JAMIA*. Submitted.
52. Luechtefeld T, Rowlands C and **Hartung** T. Read-Across-based Structure-Activity Relationship Predictions for Reproductive. Toxicity and Carcinogenicity with Deep Learning and Domain of Applicability Definition. *Frontiers in AI*, revised
53. Maertens A, Kincaid B, Bridgeford E, Brochot C, de Carvalho e Silva A, Dorne J-LCM, Geris L, Husøy T, Kleinstreuer N, Ladeira L, Loizou G, McNally K, Middleton A, Reynolds J, Rodriguez B, Roggen EL, Russo G, Thayer K, and **Hartung** T. From Cellular Perturbation to Probabilistic Risk Assessments. *ALTEX* 2025, 42:413-434. Doi: 10.14573/altex.2501291. (IF 6.3)

54. Maertens A and **Hartung** T. Green Toxicology. In: Szekely G: Encyclopedia of Green Chemistry. Elsevier, Török, B. (ed.) Encyclopedia of Green Chemistry, 2025, vol. 3, 352–357. US: Elsevier. Doi: 10.1016/B978-0-443-15742-4.00098-3.
55. Maertens A and **Hartung** T. Regrettable Substitution. In: Szekely G: Encyclopedia of Green Chemistry. Elsevier, In: Török, B. (ed.) Encyclopedia of Green Chemistry, 2025, vol. 3, 358–364. US: Elsevier. Doi: 10.1016/B978-0-443-15742-4.00099-5.
56. Marutha T, Hartung T and Dlamini Z. Chapter 004: The Human Exposome and Its Relevance to Cancer: Mapping Lifetime Environmental and Lifestyle Influences on Carcinogenesis. submitted
57. Marx U, Beken S, Chen Z, Dehne E-M, Doherty A, Ewart L, Fitzpatrick SC, Griffith LG, Gu Z, **Hartung** T, Hickman J, Ingber DE, Ishida S, Jeong J, Leist M, Levin L, Mendrick DL, Pallocca G, Platz S, Raschke M, Smirnova L, Tagle DA, Trapecar M, van Balkom BWM, van den Eijnden-van Raaij J, van der Meer A and Roth A. Biology-inspired dynamic Microphysiological System Approaches to Revolutionize Basic Research, Healthcare and Animal Welfare. ALTEX 2025, 42 204-223. doi: 10.14573/altex.2410112. **(IF 6.3)**
58. Mathisen GH, Svendsen C, Vist GE, Husøy T, Ames HM, Bearth A, Audebert M, Bernhard A, Beronius A, Bruzell EM, Di Consiglio E, Davenport M, Druwe I, Geci R, Gundert-Remy U, **Hartung** T, Hoffmann S, Hogberg HT, Hooijmans CR, Lizarraga LE, Olker JH, Prieto P, Robinson JF, Rooney AA, Sebollela A, Smith NM, Spilioti E, Spyropoulou A, Tcheremenskaia O, Testai E, Wang A, Yost E, Zilliacus J and Whaley, P. Identification of concepts of importance for the assessment of internal validity of in vitro toxicology studies using a modified Delphi technique. Evidence-Based Toxicology 2025, 3: 2551013. Doi: 10.1080/2833373X.2025.2551013
59. Maynard A, Lee SY, Fink O and **Hartung** T. Can Artificial Intelligence Help Scientists Discover More, Faster? Front. Young Minds. 2025, 13:1574839. doi: 10.3389/frym.2025.1574839 **(1.5)**
60. Mohapatra R, von Aulock S, Leist M and **Hartung** T. Guidance for Good In Vitro Reporting Standards (GIVReSt) - a draft for stakeholder discussion and background documentation. ALTEX 2025, 42:376-396. Doi" 10.14573/altex.2507041. **(IF 6.3)**
61. Nguyen TH, Akdis C, Baccarelli A, Bhowmik RT, Coull B, Childs ML, Pinna LP, Golden C, **Hartung** T, Huynh BQ, Kaushik A, Mudele O, Phipatanakul W, Patel CJ, Pinto BS, Quackenbush J, Sampat V. Toney J, Wu M, Williams MA, Wills-Karp M and Nadeau KC. Leveraging Machine Learning and Artificial Intelligence in Environmental Health Sciences. NEJM AI, submitted.
62. Onder O, **Hartung** T, Bossert L, Tse YF, Kan H-L, Poojary B and Singer P. he Paradigm Shift in Biomedicine: Scientific Objections to Animal Models and the Ethical Case for AI-Based Alternatives. Science and Engineering Ethics, submitted.
63. Paller CJ, Metri N, Kashyap R, Yenokyan G, Joyner R, Gerstenhaber M, Alderfer M, Siegrist E, Moore J, Aboumatar H, Potter JJ, Maertens A, **Hartung** T, Watkins S, Niederhuber JE, Ford DE, and Dobs A. An Academic-Community Partnership to Advance Cancer Research: The Johns Hopkins Clinical Research Network, submitted.
64. Roos MJ, Luna D, Alam El Din D-M, **Hartung** T, Smirnova L, Proescher A, and Johnson EC. Modeling Organoid Population Electrophysiology Dynamics. bioRxiv 2025.03.02.641081; doi: <https://doi.org/10.1101/2025.03.02.641081>
65. Schmidt L, Campbell F, Craig D, Walker VR, Rooney AA, Schmitt CP, **Hartung** T and Large TJ. Language Models for Data Extraction in Toxicology: Implications and Lessons Learned from the Clinical Evidence Domain. Evidence-based Toxicology 3: 254679. doi.org/10.1080/2833373X.2025.2546791
66. Seal S and Richard R. Rabbit (aka **Hartung** T). Advice for Bad Computational Toxicologists. NAM Journal 2025, 1:100024. Doi: 10.1016/j.namjnl.2025.100024.
67. Sillé FCM, Belkadi M, Koehler K, Ali J, Vasiliou V, Sagigiannis D and **Hartung** T. Charting Exposomoethics: A Roadmap for the Ethical Foundations of the Human Exposome Project, Human Genomics, in press **(IF 4.3)**.
68. Sillé FCM, Prasse C, Luechtefeld T and **Hartung** T. Integrating Retention Time Prediction with QSAR and AI for Untargeted Metabolomics Chemical Identification. Frontiers in Public Health. 13:1687056. DOI 10.3389/fpubh.2025.1687056 **(IF 3.5)**

69. Sillé FCM and Hartung T. AI—the Apollo Guidance Computer of the Exposome Moonshot. *Frontiers in AI*. *Frontiers in AI*, section Medicine and Public Health 2025, 8:1632520. doi: 10.3389/frai.2025.1632520 **(IF 4.8)**.
70. Sillé FCM, Smirnova L and **Hartung T**. Microphysiological Systems as a Pillar of the Human Exposome Project: Toward Human-Relevant Exposure Science. *Journal of Biological Chemistry*, 2025, 301:110782. Doi: 10.1016/j.jbc.2025.110782 **(IF 4.7)**
71. Staumont B, Ladeira L, Gamba A, Heusinkveld HJ, Piersma A, Fritsche E, Masereeuw R, Vanhaecke T, Teunis M, Luechtefeld TH, **Hartung T**, Jover R, Vinken M and Geris L. Mapping physiology: a systems biology approach for the development of alternative methods in toxicology. *ALTEX* 2025, 42:301-307. doi:10.14573/altex.2412241 **(IF 6.3)**
72. Tabatabaei N, Ameixa J, Ballauff M, arta Barenys M, Bennet F, Brossel D, Donskyic I, Dumit VI, Ghanbari H, Halappanavar S, **Hartung T**, Jungnickel H, Kharrazi S, Klinger D, Maglione M, Mohammadifar E, Resch-Genger U, Roloff A, Rosowski M, Tentschert J, Schneider G, Schneider MR, Sieg H, Usmani SM and Haase A. Bridging nanomedicine and nanotoxicology to establish integrated testing strategies for nanomaterials with a specific focus on metal-based nanoparticles and polymer-based nanocarriers. *NanoImpact*, submitted.
73. Taynnan Barros M, Kagan BJ, **Hartung T** and Smirnova L. Editorial: The Intersection Between the Biological and Digital—Advancing Synthetic Biological Intelligence and Organoid Intelligence. *Frontiers in Neuroscience* 2025, 18:1542629. doi: 10.3389/fncel.2024.1542629. **(IF 4.2)**
74. Teunis M, Luechtefeld T and **Hartung T**. Editorial: Leveraging Artificial Intelligence and Open Science for Toxicological Risk Assessment. *Frontiers in Toxicology*, 7:1568453. doi: 10.3389/ftox.2025.1568453. **(IF 3.6)**
75. Tsaïoun K, **Hartung T**, Hoffmann S, Józwiak AB and Vinken M. Present and future of AI, open science, and transparency in regulatory science. *Evidence-based Toxicology* 2025, 3: Article: 2520764. Doi: 10.1080/2833373X.2025.2520764.
76. Watkins JC, Middelkoop J, Taylor K, Filipova D, **Hartung T**, Ritskes-Hoitinga M and Salvatori D. Botulinum Neurotoxin: Tracking the Transition from Lethal Dose to In Vitro Models. *NAM Journal* 2025, in press. Doi: 10.1016/j.namjnl.2025.100040
77. Wolfbeisz C, Suess J, Dreser N, Leisner H, Brüll M, Fandrich M, Schneiderhan-Marra N, Poetz O, **Hartung T** and Leist M. Differential responses of human iPSC-derived microglia to the stimulation with diverse inflammogens. *Cells*, in press **(IF 5.2)**

## 2024

78. Alam El Din D-M, Shin J, Lysinger A, Roos MJ, Johnson EC, Shafer TJ, **Hartung T** and Smirnova L. Organoid Intelligence for Developmental Neurotoxicity Testing. *Front. Cell. Neurosci. - Cellular Neurophysiology* 2024, 18:1480845. Doi: 10.3389/fncel.2024.1480845. **(IF 4.2)**
79. Balls M, Bass R, Curren R, Fentem J, Goldber A, **Hartung T**, Herrmann K, Kleinstreuer NC, Libowitz L, Parascandola J, Rowan A, Spielmann H, Stephens ML, Thomas RS and Tsaïoun K. 60 Years of the 3Rs Symposium: Lessons Learned and the Road Ahead. *ALTEX* 2024, 41:179-201. doi: 10.14573/altex.2403061. **(IF 6.3)**
80. Caloni F, Cazzaniga A, Gutleb AC, **Hartung T**, Kandarova H, Ranaldi G, Rashidi H, Wilflingseder D and Moutaharrik S. Non Animal Models: complexity for interactions.....connecting Science. The Fifth Virtual Summer School Lake Como School of Advanced Studies, 15-16 May 2024, *ALTEX* 2024, 41:666-668. doi: 10.14573/altex.2407181 **(IF 6.3)**
81. Cauchemez S, Cossu G, Delzenne N, Elinav E, Fassin D, Fischer A, **Hartung T**, Kalra D, Netea M, Neyts J, Rappuoli R, Pizza M, Saville M, Tenaerts P, Wright G, Sansonetti P, and Goldman M. Standing the test of COVID-19: charting the new frontiers of medicine. *Frontiers in Science* 2024, 2:1236919. doi: 10.3389/fsci.2024.1236919.
82. Debad S, Allen D, Bandele O, Bishop C, Blaylock M, Brown P, Bunger MK, Co JY, Crosby L, Daniel AB, Ferguson SS, Ford K, Gamboa da Costa G, Gilchrist KH, Grogg MW, Gwinn M,

- Hartung** T, Hogan SP, Jeong YE, Kass GEN, Kenyon E, Kleinstreuer NC, Kujala V, Lundquist P, Matheson J, McCullough SD, Melton-Celsa A, Musser S, Oh I, Oyetade OB, Patil SU, Petersen EJ, Sadrieh N, Sayes CM, Scruggs BS, Tan Y-M, Thelin B, Nelson MT, Tarazona JV, Wambaugh JF, Yang J-Y, Yu C and Fitzpatrick S. Trust your gut: Establishing confidence in gastrointestinal models – An overview of the state of the science and contexts of use. *ALTEX* 2024, 41:402-24. Doi: 10.14573/altex.2403261. **(IF 6.3)**
83. Diemar M, Vinken M, Teunis M, Krul C, Busquet F, Zajac J, Kandarova H, Corvi R, Russo M, Kharina A, Bryndum L, Santillo M, Bloch D, Kucheryavenko O, Panagiotakos D, Rogiers V, Beekhuijzen M, Giusti A, Najjar A, Courage C, Koenig T, Kolle S, Boonen H, Dhalluin S, Boberg J, Müller B, Kukic P, Ritskes-Hoitinga M, Grasselli E, Zietek T, Stoddart G, Heusinkveld H, Castell J, Benfenati E, Yang H, Perera S, Paini A, Kramer N, **Hartung** T, Janssen M, Fritsche E, Jennen D, Piumatti M, Rathman J, Marusczyk J, Milec L, and Roggen E. Report of the first ONTOX Stakeholder Network meeting: digging under the surface of ONTOX together with the stakeholders. *ATLA* 2024, 52:117-131. Doi: 10.1177/02611929231225730. **(IF 1.3)**.
84. Fink F, **Hartung** T, Lee SY and Maynard A. AI for scientific discovery pioneering new frontiers in knowledge. In: World Economic Forum, Top 10 Emerging Technologies of 2024, Flagship Report. Available at: <https://www.weforum.org/publications/top-10-emerging-technologies-2024/in-full/1-ai-for-scientific-discovery/>
85. Golden E, Allen D, Amberg A, Anger LT, Baker E, Baran SW, Bringezu F, Clark M, Duchateau-Nguyen G, Escher SE, Giri V, Grevot A, **Hartung** T, Li D, Muster W, Snyder K, Wange R and Steger-Hartmann T. Toward implementing virtual control groups in nonclinical safety studies: Workshop report and roadmap to implementation. *ALTEX* 2024, 41:282–301. doi: 10.14573/altex.2310041. **(IF 6.3)**
86. Hansell L, Ritskes-Hoitinga M, Visseren-Hamakers IJ and **Hartung** T. Recommendations for the EU roadmap to accelerate the transition towards phasing out animal testing for chemical safety assessments. *Frontiers Policy Lab* 2024, available at: <https://policylabs.frontiersin.org/content/commentary-recommendations-for-the-eu-roadmap-to-accelerate-the-transition-towards-phasing-out-animal-testing-for-chemical-safety-assessments>
87. **Hartung** T. Advice for Bad Toxicologists. *NAM Journal* 2024, 2:1, 2421187, DOI: 10.1080/2833373X.2024.2421187.
88. **Hartung** T, Morales Pantoja IE and Smirnova L. Brain organoids and Organoid Intelligence (OI) from ethical, legal, and social points of view. *Frontiers in Artificial Intelligence, sec. Organoid Intelligence* 2024, 6:1307613. doi: 10.3389/frai.2023.1307613. **(IF 4.0)**
89. **Hartung** T, The validation of regulatory test methods – conceptual, ethical, and philosophical foundations. *ALTEX* 2024, 41:525–544. doi: 10.14573/altex.2409271. **(IF 6.3)**
90. **Hartung** T, King N, Kleinstreuer N, Leist M and Tagle D. Leveraging Biomarkers and Translational Medicine for Preclinical Safety - Lessons for Advancing the Validation of Alternatives to Animal Testing. *ALTEX* 2024, 41: 545-566. doi:10.14573/altex.2410011. **(IF 6.3)**
91. **Hartung** T, Maertens A and Luechtefeld T. E-validation – Unleashing AI for Validation. *ALTEX* 2024, 41:567–587. doi: 10.14573/altex.2409211. **(IF 6.3)**
92. **Hartung** T, Schenke M and Smirnova L. Brain organoids as a translational model of human developmental neurotoxicology. In: *Stem Cells in Neurotoxicology, Advances in Neurotoxicology*, 2024 Chapter 3, Vol 12, 83-106. doi: 10.1016/bs.ant.2024.07.002
93. **Hartung** T, Thornton JR and Smirnova L. Self-organizing human neuronal cultures in the modeling of environmental impacts on learning and intelligence. In: *Advances in Neurotoxicology*, 2024, Chapter 4, Volume 12, 107-135. Doi: 10.1016/bs.ant.2024.09.001
94. **Hartung** T. Evidence-based toxicology. *Encyclopedia of Toxicology*, 4<sup>th</sup> edition, 561-565.
95. **Hartung** T., Toxicity Testing in the 21st Century: Approaches to Implementation. *Encyclopedia of Toxicology*, 4<sup>th</sup> edition, 305-307.
96. **Hartung** T. The (misleading) role of animal models in drug development. *Frontiers in Drug Discovery* 2024, 4:1355044. doi: 10.3389/fddsv.2024.1355044
97. **Hartung** T and Tsaionun K. Evidence-based approaches in toxicology: their origins, challenges, and future directions. *Evidence-based Toxicology* 2024, 2:1, 2421187, DOI: 10.1080/2833373X.2024.2421187.

98. **Hartung** T, Bajramovic JJ, Gibbs S and Corsini E. Editorial: New Approach Methods in Immunology. *Frontiers in Immunology* 2024, 15:1488534. doi: 10.3389/fimmu.2024.1488534. (IF 6.5)
99. Kagan BJ, Mahlis M, Bhat A, Bongard J, Cole VM, Corlett P, Gyngell C, **Hartung** T, Jupp B, Levin M, Lysaght T, Opie N, Razi A, Smirnova L, Tennant I, Thestrup Wade P and, Ge Wang17. Towards a Nomenclature Consensus for Diverse Intelligent Systems: Call for Collaboration. *The Innovation* 2024, 5:1006589. (IF 32.1)
100. Kleinstreuer N and **Hartung** T. Artificial Intelligence (AI) – it’s the end of the tox as we know it (and I feel fine) - AI for Predictive Toxicology. *Archives of Toxicology* 2024, 98:735–754. Doi: 10.1007/s00204-023-03666-2 (IF 6.2)
101. Maertens A, Luechtefeld T and **Hartung** T. Alternative Methods Go Green! Green Toxicology as a Sustainable Approach for Assessing Chemical Safety and Designing Safer Chemicals. *ALTEX* 2024, 41:3-19. doi:10.14573/altex.2312291. (IF 6.3)
102. Maertens A, Antignac E, Benfenati E, Bloch D, Fritsche E, Hoffmann S, Jaworska J, Loizou G, McNally K, Piechota P, Roggen EL, Teunis M and **Hartung** T. The probable future of toxicology - probabilistic risk assessment. *ALTEX* 2024, 41:273–281. doi: 10.14573/altex.2310301. (IF 6.3)
103. Maertens A, Brykman S, **Hartung** T, Gafita A, Bai H, Hoelzer D, Skoudis E and Paller C. Navigating the Unseen Peril: Safeguarding Medical Imaging in the Age of AI. *Frontiers in AI, Sec. Medicine and Public Health* 2024, 7:1400732. doi: 10.3389/frai.2024.1400732. (IF 4.0)
104. Mathisen GH, Vist GE, Whaley P, White RA, Husøy T, Ames HM, Beronius A, Di Consiglio E, Druwe I, **Hartung** T, Hoffmann S, Hooijmans CR, Machera K, Prieto P, Robinson JF, Roggen E, Rooney AA, Roth N, Spilioti E, Spyropoulou A, Tcheremenskaia O, Testai E, Vinken M and Svendsen C. Protocol: Testing the performance of INVITES-IN, a tool for assessing the internal validity of *in vitro* studies. *Evidence-Based Toxicology* 2024, 1. Doi: 10.1080/2833373X.2023.2293289.
105. Mathisen GH, Bearth A, Jones LB, Hoffmann S, Vist GE, Ames HM, Husøy T, Svendsen C, Tsaion K, Ashikaga T, Bloch D, Cavoski A, Chiu WA, Davies HG, Giusti A, **Hartung** T, Hirabayashi Y, Hogberg HT, Joglekar R, Kojima H, Krishnan K, Kwon S, Osborne OJ, Roggen E, Rooney AA, Rousselle C, Sass JB, Sepai O, Simanainen U, Thayer KA, Tong W, Wikoff D, Wright F and Whaley P. Time for CHANGE: system-level interventions for bringing forward the date of effective use of NAMs in regulatory toxicology. *Archives of Toxicology* 2024, 98:2299–2308, doi: 10.1007/s00204-024-03802-6. (IF 6.2)
106. Pamies D, Ekert J, Zurich M-G, Frey O, Werner S, Pergiovanni M, Freedman B, Teo AKK, Erfurth H, Reyes DR, Loskill P, Candarlioglu P, Suter-Dick L, Wang S, **Hartung** T, Coecke S, Stacey G, Wagegg BA, Dehne E-M, Pistollato F and Leist M. Recommendations on fit-for-purpose criteria to establish quality management for Microphysiological Systems (MPS) and for monitoring of their reproducibility. *Stem Cell Reports*, Recommendations on fit-for-purpose criteria to establish quality management for microphysiological systems and for monitoring their reproducibility, *Stem Cell Reports* 2024, 19:604-617. Doi: 10.1016/j.stemcr.2024.03.009. (IF 7.8)
107. Sillé F and **Hartung** T. Metabolomics in Preclinical Drug Safety Assessment: Current Status and Future Trends. *Metabolites* 2024,14:98. doi:10.3390/metabo14020098. (IF 4.1)
108. Sillé FCM, Busquet F, Fitzpatrick S, Herrmann K, Leenhouts-Martin L, Luechtefeld T, Maertens A, Miller GW, Smirnova L, Tsaion K and **Hartung** T. The Implementation Moonshot Project for Alternative Chemical Testing (IMPACT) toward a Human Exposome Project. *ALTEX* 2024, 41:344–362. doi: 10.14573/altex.2407081. (IF 6.3)
109. Smirnova L and **Hartung** T. The Promise and Potential of Brain Organoids. *Advanced Healthcare Materials*, 2024, 13:2302745. Doi: 10.1002/adhm.202302745. (IF 15.1)
110. Smirnova L and **Hartung** T. Creating Tiny Human “Organs” to Test medicines... and More!. *Front. Young Minds.* 2024, 12:1320408. doi: 10.3389/frym.2024.1320408 (1.5)
111. Smirnova L, Hogberg HT, Leist M and **Hartung** T. Revolutionizing Developmental Neurotoxicity Testing - a Journey from Animal Models to Advanced In Vitro Systems. *ALTEX* 2024, 41:152–178. doi: 10.14573/altex.2403281. (IF 6.3)
112. Svendsen C, Mathisen GH, Vist GE, Husøy T, Ames HM, Beronius A, Di Consiglio E, Druwe I, **Hartung** T, Hoffmann S, Hooijmans CR, Machera K, Robinson JF, Roggen E, Rooney AA, Roth

N, Spilioti E, Spyropoulou A, Tcheremenskaia O, Testai E, Vinken M and Whaley P. Cross-mapping of terms used in chemical risk assessment with those used in systematic review: research protocol. *Evidence-Based Toxicology* 2024, 2(1). doi: 10.1080/2833373X.2024.2371285

113. Vist GE, Ames HA, Mathisen GH, Husøy T, Svendsen C, Beronius A, Di Consiglio E, Druwe I, **Hartung** T, Hoffmann S, Hooijmans CR, Machera K, Prieto P, Robinson JF, Roggen E, Rooney AA, Roth N, Spilioti E, Spyropoulou A, Tcheremenskaia O, Testai E, Vinken M and Whaley P. A comprehensive item bank of internal validity issues of relevance to in vitro toxicology studies. *Evidence-Based Toxicology* 2024, 2:1. Doi: 10.1080/2833373X.2024.2418045
114. Zeng X, Ma S, Luo Y, Zhang Y, Wang Q, Zhang Z, Ke W, Ma Y, Hu H, Hartung T, Wei Y and Zhong X. Environmentally Relevant Concentrations of Tetrabromobisphenol A Exposure Impends Neurovascular Formation through Perturbing Mitochondrial Metabolism in Zebrafish Embryos and Human Primary Endothelial Cells. *Environ Sci Technol*. 2024, 58:5267-5278. doi: 10.1021/acs.est.3c10132. (IF 11.4)

## 2023

115. Ashammakhi N, Nakipoglu M and **Hartung** T. Lessons and insights from the first Microphysiological World Summit. *Journal of Craniofacial Surgery Open* 2023, 1(2):e0011. DOI: 10.1097/SC9.0000000000000011. (IF 1.2)
116. Barreras P, Pamies D, **Hartung** T and Pardo CA. Human brain microphysiological systems in the study of neuroinfectious disorders. *Experimental Neurology* 365(181):114409. Doi: 10.1016/j.expneurol.2023.114409 (IF 5.3)
117. Bishop PL, Brescia S, Brunner R, Casey W, Conlee-Griffin K, Craenen K, Currie RA, Domoradzki J, Embry M, Harris MI, **Hartung** T, Hilton GM, Hooberman B, Ingle B, Jang K-J, Kinter L, Krall C, Leedale J, Lowit A, Mehta J, Mendez E, Mingoia B, Munarriz E, Murphy L, Myer A, Ottoni A, Panzarea M, Perron M, Pina J, Ramsingh D, Sewell F, Swanson J, Tan C, Tan Y-M, Terron A, Trainer MA, Valadares MC, Webb S, Webb E, Willett C and Wolf DC. Challenges and opportunities for overcoming dog use in agrochemical evaluation and registration. *ALTEX* 2023, 40:534-540. doi: 10.14573/altex.2302151. (IF 6.3)
118. Butera A, Smirnova L, Ferrando-May E, **Hartung** T, Brunner T, Leist M and Amelio I. Deconvoluting Gene and Environment interactions to develop “epigenetic score meter” of disease. *EMBO Molecular Medicine* 2023, e18208. <https://doi.org/10.15252/emmm.202318208>. (IF 14.0)
119. Caloni F, Fossati P, **Hartung** T, Martino PA, Mormino G, Vitale A and De Angelis I. Summer Meeting Alternative Methods and CitiZen Science. *ALTEX*, 39:159–160. Doi: 10.14573/altex.2112201 (IF 6.3)
120. Caloni F, De Angelis I, Gribaldo L, Heinonen T, Kandarova H, Kral V, Letasiova S, Sillé F, Smirnova L, Pilar Vinardell M and **Hartung** T. Women in Alternatives. *ALTEX* 2023, 40:545-548, doi: 10.14573/altex.2303211 (IF 6.3)
121. De Silva A, Ramesh R, Ungar L, Shuler HM, Cowan NJ, Platt M, Li C, Isik L, Roh S-E, Charles A, Venkataraman A, Caffo B, How JJ, Keschull JM, Krakauer JW, Bichuch M, Kinfu KA, Yezerets E, Jayaraman D, Shin JM, Villar S, Phillips I, Priebe CE, **Hartung** T, Miller MI, Vidal R, Dey J, Huang N, Eaton E, Etienne-Cummings R, Ogburn EL, Burns R, Osuagwu O, Mensh B, Muotri AR, Brown J, White C, Yang W, Rusu AA, Verstynen T, Kording KP, Chaudhari P and Vogelstein JT. Prospective Learning: Principled Extrapolation to the Future. Conference on Lifelong Learning Agents, 2023. Available at: <https://www.seas.upenn.edu/~dineshj/publication/desilva-23-prospective/desilva-23-prospective.pdf>
122. Golden E, Ukaegbu DC, Ranslow P, Brown R, **Hartung** T, and Maertens A. The Good, The Bad, and The Perplexing: Structural Alerts and Read-Across for Predicting Skin Sensitization Using Human Data. *Chem. Res. Toxicol.* 2023, 36:734–746. Doi: 10.1021/acs.chemrestox.2c00383. (IF 4.0)

123. **Hartung T.** A call for a Human Exposome Project. *ALTEX* 2023, 40:4–33. doi: 10.14573/altex.2301061. **(IF 6.3)**
124. **Hartung T, Navas-Acien A and Chiu WA.** Future Directions Workshop: Advancing the Next Scientific Revolution in Toxicology. Available at: <https://basicresearch.defense.gov/Portals/61/Documents/future-directions/>
125. **Hartung T.** AI as the New Frontier in Chemical Risk Assessment. *Frontiers in AI, Sec. Medicine and Public Health* 2023, 6:1269932. doi: 10.3389/frai.2023.1269932 **(IF 4.0)**
126. **Hartung T, Smirnova L, Morales Pantoja IE Akwaboah A, Alam El Din D-M, Berlinicke CA, Boyd JL, Caffo BS, Cappiello B, Cohen-Karni T, Curley L, Etienne-Cummings R, Dastgheyb R, Gracias DH, Gilbert F, Habela CW, Han F, Harris T, Herrmann K, Hill E, Huang Q, Jabbour RE, Johnson EC, Kagan BJ, Krall C, Levchenko A, Locke P, Maertens A, Metea M, Muotri AR, Parri R, Paulhamus BL, Plotkin J, Roach P, Romero JC, Schwamborn JC, Sillé F, Szalay A, Tsaïoun K, Tornero D, Vogelstein JT, Wahlin K, and Zack DJ.** The Baltimore Declaration toward the exploration of organoid intelligence. *Frontiers in Science* 2023, 1:1017235. doi: 10.3389/fsci.2023.1017235
127. **Hartung T.** Tierversuche ersetzen: Wie und wann? *Frontiers for Young Minds* 2023, available at: <https://www.frontiersin.org/files/pdf/frym-10-959496-de.pdf>. **(IF 1.5)**
128. **Hartung T.** Can you take AI out of the wild and should you? *Frontiers Policy Labs* 2023, <https://policylabs.frontiersin.org/content/commentary-ai-data-thomas-hartung>
129. **Hartung T.** ToxAIcology - how modeling and AI could be used for risk assessment. Newsletter of the Dutch Society of Toxicology, section Toxicology in the Future, in press.
130. **Hartung T.** ToxAIcology - the Evolving Role of Artificial Intelligence in Advancing Toxicology and Modernizing Regulatory Science. *ALTEX* 2023, 40: 559-570. doi: 10.14573/altex.2309191. **(IF 6.3)**
131. **Hartung T.** Book Review: Rat Trap – Breaking Free from the Illusion of Progress in Animal Research by Pandora Pound”, *ALTEX* 2023, 40:705. Available at: <https://www.altex.org/index.php/altex/article/view/2697>
132. **Hartung T.** Buchbesprechung: Rat trap – breaking free from the illusion of progress in animal research. *ALTEX Tierethik* 2023, 15:121-123. **(IF 6.3)**
133. Holzer A-K, Dreser N, Pallocca G, Mangerich A, Stacey G, Dipalo M, van de Water B, Rovida C, Wirtz PH, van Vugt B, Panzarella G, **Hartung T**, Terron A, Mangas I, Herzler M, Marx-Stoeltig P, Coecke S and Leist M. Acceptance criteria for new approach methods in toxicology and human health-relevant life science research – part I, *ALTEX* 2023, 40:706–712. doi: 10.14573/altex.2310021. **(IF 6.3)**
134. Jordan R, Ford-Scheimer SL, Alarcon RM, Atala A, Borenstein JT, Brimacombe KR, Cherry S, Clevers H, Davis MI, Funnell SGP, Gehrke L, Griffith LG, Grossman AC, **Hartung T**, Ingber DE, Kleinstreuer NC, Kuo CJ, Lee EM, Mummery CL, Pickett TE, Ramani S, Rosado-Olivieri EA, Struble EB, Wan Z, Williams MS, Hall MD, Ferrer M and Markossian S. Report of the Assay Guidance Workshop on 3D Tissue Models for Antiviral Drug Development. *J. Inf. Dis.* 2023, 228:S337–S354, doi: 10.1093/infdis/jiad334. **(IF 12.7)**
135. Kincaid B, Piechota P, Golden E, Maertens M, **Hartung T** and Maertens A. When exposures are more than the sum of their parts: using in silico tools to predict flame retardant metabolites for more informative exposomics-based approaches. *Front. Toxicol., Sec. Environmental Toxicology* 2023, 5. doi: 10.3389/ftox.2023.1216802
136. Knight J, **Hartung T** and Rovida C. 4.2 million and counting...the animal toll for REACH systemic toxicity studies. *ALTEX* 2023, 40:389-407. Doi: 10.14573/altex.2303201. **(IF 6.3)**
137. Morales Pantoja IE, Smirnova L, Muotri AR, Wahlin KJ, Kahn J, Boyd L, Gracias DH, Cohen-Karni T, Caffo BS, Szalay AS, Han F, Zack DJ, Etienne-Cummings R, Akwaboah A, Romero JC, Alam El Din D-M, Plotkin JD, Paulhamus BL, Johnson EC, Gilbert F, Curley JL, Cappiello B, Schwamborn JC, Hill EJ, Roach P, Tornero D, Krall C, Parri R, Sillé F, Levchenko A, Jabbour RA, Kagan BJ, Berlinicke CA, Huang Q, Maertens A, Herrmann K, Tsaïoun K, Dastgheyb R, Habela CW, Vogelstein JT and **Hartung T.** First Organoid Intelligence (OI) Workshop to Form an OI Community, *Frontiers Artificial Intelligence* 2023, Section Organoid Intelligence, 6: 1116870. doi: 10.3389/frai.2023.1116870. **(IF 4.0)**

138. Najjar A, Kramer N, Gardner I, Hartung T. and Steger-Hartmann T. Perspectives in Predictive Toxicology. *Front. Pharmacol.* 2023, Sec. Predictive Toxicology 14:1257423. | <https://doi.org/10.3389/fphar.2023.1257423> (IF 6.0)
139. Rovida C, Busquet F, Leist M and **Hartung T.** REACH out-numbered! The future of REACH and animal numbers. *ALTEX* 2023, 40:367-388. Doi: 10.14573/altex.2307121 (IF 6.3)
140. Schmeisser S, Miccoli A, von Bergen M, Berggren E, Braeuning A, Busch W, Desaintes C, Gourmelon A, Grafström R, Harrill J, **Hartung T.** Herzler M, Kass G, Kleinstreuer N, Leist M, Luijten M, Marx-Stoelting P, Poetz O, van Ravenzwaay B, Roggeband R, Rogiers V, Roth A, Sanders P, Thomas RS, Vinggaard AM, Vinken M, van de Water B, Luch A and Tralau T. New Approach Methodologies in human regulatory toxicology – not if, but how and when!, *Environment International* 2023, 178:108082. doi: 10.1016/j.envint.2023.108082 (IF 13.4)
141. Smirnova L, Caffo BS, Gracias DH, Huang Q, Morales Pantoja IE, Tang B, Zack DJ, Berlinicke CA, Boyd JL, Harris TD, Johnson EC, Kagan BJ, Kahn J, Muotri AR, Paulhamus BL, Schwamborn JC, Plotkin J, Szalay AS, Vogelstein JT, Worley PF, and **Hartung T.** Organoid intelligence (OI): the new frontier in biocomputing and intelligence-in-a-dish, *Frontiers in Science*, 2023, 1:1017235. doi: 10.3389/fsci.2023.1017235.
142. Smirnova L, Morales Pantoja IE and **Hartung T.** Brain-cell cultures: the future of computers and more? *Frontier for Young Minds* 2023, 11:1049593. doi: 10.3389/frym.2023.1049593. (IF 01.5)
143. Smirnova L, Morales Pantoja IE and **Hartung T.** Organoid Intelligence (OI) – the ultimate functionality of a brain microphysiological system. *ALTEX* 2023, 40:191-203. doi:10.14573/altex.2303261 (IF 6.3)
144. Suciú I, Pamies D, Peruzzo R, Wirtz PH, Smirnova L, Pallocca G, Hauck C, Cronin MTD, Hengstler JG, Brunner T, **Hartung T.** Amelio I and Leist M. GxE interactions as a basis for toxicological uncertainty. *Archives Toxicology* 2023, 97:2035-2049. doi: 10.1007/s00204-023-03500-9. (IF 6.2)
145. Svendsen C, Whaley P, Vist GE, Husøy T, Beronius A, Di Consiglio E, Druwe I, **Hartung T.** Hatzi VI, Hoffmann S, Hooijmans C, Machera K, Robinson JF, Roggen E, Rooney AA, Roth N, Spilioti E, Spyropoulou A, Tcheremenskaia O, Testai E, Vinken M and Mathisen GH. Protocol for designing INVITES-IN, a tool for assessing the internal validity of in vitro studies, *Evidence-Based Toxicology* 2023, 1:1, doi: 10.1080/2833373X.2023.2232415.

## 2022

146. Barreras P, Pamies D, Monaco MC, Munoz LS, Zhong X, Major EO, Hogberg HT; Hartung T and Pardo CA. A human derived 3D brain microphysiological system as a model to study JC virus infection. *Journal Neurovirology* 2022, 28:17-26. doi: 10.1007/s13365-022-01062-7. (IF 3.7)
147. Calina D, Hernández AF, **Hartung T.** Egorov AM, Izotov BN, Nikolouzakis TK, Tsatsakis A and Docea AO. mRNA Vaccines against SARS-CoV-2: New frontiers in COVID-19 Pandemic and the Way Forward. *Food and Chemical Toxicology*, in press. (IF 5.6)
148. Caloni F, De Angelis I and **Hartung T.** Replacement of animal testing by integrated approaches to testing and assessment (IATA): a call for in vivitrosi. *Archives of Toxicology* 2022, 96:1935-1950. doi: 10.1007/s00204-022-03299-x. (IF 6.2)
149. Deng J, **Hartung T.** Capobianco E, Chen JY and Emmert-Streib F. Artificial Intelligence for Precision Medicine. *Front. Artif. Intell.* 2022, 4:834645. doi: 10.3389/frai.2021.834645 (IF 4.0)
150. Fu Y, Luechtefeld T, Karmaus A and **Hartung T.** The use of artificial intelligence and big data for the safety evaluation of US food-relevant chemicals. In: Knowles ME, Anelich L, Boobis A and Popping B (eds). *Present knowledge in food safety – a risk-based approach throughout the food chain*, 2022, Elsevier, 575-588.
151. Farhat N, Tsaioun K, Saunders-Hastings P, Morgan RL, Ramoju S, **Hartung T.** and Krewski D. Systematic review in evidence-based risk assessment. *ALTEX* 2022, 39:463–479. doi: 10.14573/altex.2004111. (IF 6.3)
152. **Hartung T.** and Krewski D. Editorial: Special Issue *Development of an Evidence-Based Risk Assessment Framework*. *ALTEX* 2022, 39:442. doi: 10.14573/altex.22S2. (IF 6.3)

153. **Hartung T** and Tsatsakis AM. Safety Science in the 21st Century – a Scientific Revolution in its Making. In: Tsatsakis AM (ed). Toxicological Risk Assessment and Multi-System Health Impacts from Exposure. p. 51-59. Elsevier, 2022.
154. **Hartung T**. Replacing Animal Testing: How and When? *Frontier for Young Minds* 2022, 10:959496. doi: 10.3389/frym.2022.959496. (IF 1.5)
155. Hoffmann S, Aiassa E, Angrish M, Beausoleil C, Bois FY, Ciccolallo L, Craig PS, de Vries RBM, Dorne JLCM, Druwe IL, Edwards SW, Eskes C, Georgiadis M, **Hartung T**, Kienzler A, Kristjansson EA, Lam J, Martino L, Meek B, Morgan RL, Munoz-Guajardo I, Noyes PD, Parmelli E, Piersma A, Rooney A, Sena E, Sullivan K, Tarazona J, Terron A, Thayer K, Turner J, Verbeek J, Verloo D, Vinken M, Watford S, Whaley P, Wikoff D, Willett K and Tsaïoun K. Application of evidence-based methods to construct mechanism-driven chemical assessment frameworks, *ALTEX* 2022, 39:499–518. doi: 10.14573/altex.2202141. (IF 6.3)
156. Huang Q, Tang B, Romero JC, Yang Y, Elsayed SK, Pahapale G, Lee T-J, Pantoja IEM, Han F, Berlinicke C, Xiang T, Solazzo M, **Hartung T**, Qin Z, Caffo BS, Smirnova L and Gracias DH. Shell Microelectrode Arrays (MEAs) for brain organoids. *Science Advances* 2022, 8:eabq5031. Doi: 10.1126/sciadv.abq5031. (IF 14.1)
157. Hutt A, Gruning A, Hansen A, **Hartung T** and Robeva R. Editorial on Machine Learning in Natural Complex Systems. *Frontiers in Applied Mathematics and Statistics*, *Front. Appl. Math. Stat.* 8:869999. doi: 10.3389/fams.2022.869999. (IF 1.7)
158. Karaulov AV, Smolyagin AI, Mikhailova IV, Stadnikov AA, Ermolina EV, Filippova YV, Kuzmicheva NV, Vlata ZK, Buha Djordjevic A, Christina, **Hartung T**, Hernandez AF and Tsatsakis AM. Assessment of the combined effects of chromium and benzene on the rat neuroendocrine and immune systems. *Environmental Research* 2022, 207:112096. doi: 10.1016/j.envres.2021.112096. (IF 8.4)
159. Krewski D, Saunders-Hastings P, Baan R, Barton-Maclaren T, Browne P, Chiu WA, Gwinn M, **Hartung T**, Kraft A, Lam J, Lewis JR, Sanaa M, Morgan RL, Paoli G, Rhomberg L, Rooney A, Sand S, Schünemann HJ, Straif K, Thayer K and Tsaïoun, K. Workshop Report: Development of an Evidence-Based Risk Assessment Framework. *ALTEX* 2022, 39:667–693. doi: 10.14573/altex.2004041. (IF 6.3)
160. Lippa KA, Aristizabal-Henao JJ, Beger RD, Bowden JA, Broeckling C, Beecher C, Davis WC, Dunn WB, Flores R, Goodacre R, Gouveia GJ, Harms AC, **Hartung T**, Jones CM, Lewis CM, Ntai I, Percy AJ, Raftery D, Schock TB, Sun J, Theodoridis G, Tayyari F, Torta F, Ulmer CZ, Wilson I and Ubhi BK. Reference Materials for MS-based Untargeted Metabolomics and Lipidomics: A Review by the Metabolomics Quality Assurance and Quality Control Consortium (mQACC). *Metabolomics* 2022, 18:24. Doi: 10.1007/s11306-021-01848-6. (IF 4.7)
161. Maertens A, Golden E, Luechtefeld TH, Hoffmann S, Tsaïoun K and **Hartung T**. Probabilistic Risk Assessment – the Keystone for the Future of Toxicology. *ALTEX* 2022, 39:3-29. doi:10.14573/altex.2201081. (IF 6.3)
162. Neuhaus W, Reininger-Gutmann B, Rinner B, Plasenzotti R, Wilflingseder D, De Kock J, Vanhaecke T, Rogiers V, Jírova D, Kejlóva K, Knudsen LE, Nielsen RN, Kleuser B, Kral V, Thone-Reineke C, **Hartung T**, Pallocca G, Leist M, Hippenstiel S, Lang A, Retter I, Kramer S, Jedlicka P, Ameli K, Fritsche E, Tigges J, Buettner M, Bleich A, Baumgart N, Baumgart J, Meinhardt MW, Spanagel R, Chourbaji S, Kranzlin B, Seeger B, von Kockritz-Blickwede M, Sanchez-Morgado JM, Galligioni V, Ruiz-Perez D, Movia D, Prina-Mello A, Ahluwalia A, Chiono V, Gutleb AC, Schmit M, van Golen B, van Weereld L, Kienhuis A, van Oort E, van der Valk J, Smith A, Roszak J, Stepnik M, Sobanska Z, Olsson IAS, Franco NH, Sevastre B, Kandarova H, Capdevila S, Johansson J, Cederroth CR, Sandstrom J, Ragan I, Bubalo N and Spielmann H. The rise of 3R centres and platforms in Europe. *ATLA* 2022, 50:90-120. (IF 1.3)
163. Neuhaus W, Reininger-Gutmann B, Rinner B, Plasenzotti R, Wilflingseder D, De Kock J, Vanhaecke T, Rogiers V, Jírová D, Kejlóva K, Knudsen LE, Nielsen RN, Kleuser B, Kral V, Thöne-Reineke C, **Hartung T**, Pallocca G, Rovida C, Leist M, Hippenstiel S, Lang A, Retter I, Krämer S, Jedlicka P, Ameli K, Fritsche E, Tigges J, Kuchovska E, Buettner M, Bleich A, Baumgart N, Baumgart J, Meinhardt MW, Spanagel R, Chourbaji S, Kränzlin B, Seeger B, von Köckritz-Blickwede M, Sánchez-Morgado JM, Galligioni V, Ruiz-Pérez D, Movia D, Prina-Mello D, Ahluwalia A, Chiono V, Gutleb AC, Schmit M, van Golen B, van Weereld L, Kienhuis A, van Oort E, van der Valk J, Smith A, Roszak J, Stepnik M, Sobańska Z, Reszka E, Olsson IAS,

- Franco NH, Sevastre B, Kandarova H, Capdevila S, Johansson J, Svensk E, Cederroth CR, Sandström J, Ragan I, Bubalo N, Kurreck J and Spielmann H. The current status and work of 3R centres and platforms in Europe. *ATLA - Alternatives to Laboratory Animals* 2022, 50:381-413. **(IF 1.3)**
164. Pamies D, Wiersma D, Katt ME, Zhong L, Burtscher J, Harris G, Smirnova L, Searson PC, **Hartung** T and Hogberg H. Human organotypic brain model as a tool to study chemical-induced dopaminergic neuronal toxicity. *Neurobiology of Disease* 2022, 169:105719. doi: 10.1016/j.nbd.2022.105719. **(IF 7.1)**
165. Pamies D, Leist M, Coecke S, Bowe G, Allen D, Gstraunthaler G, Bal-Price A, Pistollato F, DeVries R, Hogberg HT, **Hartung** T and Stacey G. Guidance Document on Good Cell and Tissue Culture Practice 2.0 (GCCP 2.0). *ALTEX*, 2022, 39:30–70. doi: 10.14573/altex.2111011. **(IF 6.3)**
166. Sillé FCM, McCormack M and **Hartung** T. The Exposome applied: a step toward defining the totality of environmental exposures in asthma. *American Journal of Respiratory and Critical Care Medicine* 2022, 206:1187-1188. doi: 10.1164/rccm.202207-1430ED **(IF 30.5)**
167. Smirnova L and **Hartung** T. Neuronal cultures playing Pong – first steps toward advanced screening and biological computing. *Neuron* 2022, 110:3855-3856, doi: 10.1016/j.neuron.2022.11.010. **(IF 18.1)**
168. Steimberg N, Alloisio S, Vincentini O, Caloni F, Baderna D, Dellambra E, Delle Monache F, Sbrana T, Scaglione S, Letasiova S, Cattaneo A, Ludovico A, Hartung T, Colacci A, Markus J, Rescigno F, Piccapane F, Occhetta P and Scagnoli F. CellTox Days 2022 – Inside the barriers: In vitro models and their applications. *ALTEX* 2023, 40:160-164. doi: 10.14573/altex.2211101 **(IF 6.3)**
169. von Aulock S, Busquet F, Locke P, Herrmann K and **Hartung** T. Engagement of scientists with the public and policymakers to promote alternative methods. *ALTEX* 2022, 39:543–559. doi: 10.14573/altex.2209261. **(IF 6.3)**

## 2021

170. Anderson WA, Bosak A, Hogberg HT, **Hartung** T and Moore MJ. Advances in 3D neuronal microphysiological systems: towards a functional nervous system on a chip. *In Vitro Cellular & Developmental Biology – Animal* 2021, 57:191–206 Doi: 10.1007/s11626-020-00532-8 **(IF 2.7)**
171. Aschner M, Paoliello MMB, Tsatsakis A, Bowman AB, Dorea JG, **Hartung** T, Domingo JL and Barbosa F J. Social Injustice in Environmental Health: A Call for Fortitude. *Environmental Research* 2021, 194: 110675. doi: 10.1016/j.envres.2020.110675 **(IF 8.4)**
172. Brown J, Clippinger AJ, Goode J, Ghosh M, Briglia C, Casey W, Coleman K, Fritsch A, **Hartung** T, Maouyo D, Muller T, Reich J, Robert L, Roeder R, Sanchez G, Sawyer A, Solati S, Tirumalai R, Zwislr W and Allen D. Using the Monocyte Activation Test as a Stand-alone Release Test for Medical Devices: A Workshop Report. *ALTEX* 2021, 38;151-156. **(IF 6.3)**
173. Calina D, **Hartung** T, Mardare I, Mitroi M, Poulas K, Tsatsakis A, Rogoveanu I and DoceaOA. COVID-19 pandemic and alcohol consumption: impacts and interconnections. *Toxicology Reports* 2021, 8:529-535. Doi: 10.1016/j.toxrep.2021.03. **(IF 0.8)**
174. Calina D, Hernández AF, **Hartung** T, Egorov AM, Izotov BN, Nikolouzakis TK, Tsatsakis A, Vlachoyiannopoulos PG, Docea AO. Challenges and Scientific Prospects of the Newest Generation of mRNA-Based Vaccines against SARS-CoV-2. *Life (Basel)*. 2021, 31:907. doi: 10.3390/life11090907. **(IF 3.2)**
175. Chesnut M, **Hartung** T, Hogberg HT and Pamies D. Human oligodendrocytes and myelin in vitro to evaluate developmental neurotoxicity. *International Journal of Molecular Sciences* 2021, 22:7929. doi: 10.3390/ijms22157929. **(IF 6.2)**
176. Chesnut M, Paschoud H, Repond C, Smirnova L, **Hartung** T, Zurich M-G, Hogberg HT and Pamies D. Human 3D iPSC-derived brain model to study chemical-induced myelin disruption. *International Journal of Molecular Sciences* 2021, 22:9473. doi: 10.3390/ijms22179473. **(IF 6.2)**
177. de Vries RBM, Angrish M, Browne P, Brozek J, Rooney AA, Wikoff DS, Whaley P, Edwards SW, Morgan RL, Druwe IL, Hoffmann S, **Hartung** T, Thayer K, Avey MT, Beverly BEJ, Falavigna M, Gibbons C, Goyak K, Kraft A, Klugar M, Klugarova J, Nampo F, Qaseem A, Sears M, Singh

- JA, Willett K, Yost EY, Schünemann H and Tsaïoun K. Applying evidence-based methods to the development and use of adverse outcome pathways construct mechanistic frameworks for the development and use of non-animal toxicity tests. *ALTEX* 2021, 38:336-347. doi:10.14573/altex.2101211 (IF 6.3)
178. Farsalinos K, Poulas K, Kouretas D, Vantarakis A, Leotsinidis M, Kouvelas D, Docea AO, Kostoff R, Gerotziapas GT, Antoniou MN, Polosa R, Barbouni A, Yiakoumaki V, Giannouchos TV, Bagos PG, Lazopoulos G, Izotov BN, Tutelyan VA, Aschner M, **Hartung** T, Wallace HM, Carvalho F, Domingo JL and Tsatsakis A. Improved strategies to counter the COVID-19 pandemic: Lockdowns vs. Primary and Community Healthcare. *Toxicology Reports* 2021, 8:1-9. Doi: 10.1016/j.toxrep.2020.12.001 (IF 0.8)
179. Golden E, Macmillan DS, Dameron G, Kern P, **Hartung** T and Maertens A. Evaluation of the global performance of eight in silico skin sensitization models using human data. *ALTEX* 2021, 38:33-48. doi: 10.14573/altex.1911261 (IF 6.3)
180. Golden E, Maertens M, **Hartung** T and Maertens A. Mapping Respiratory Sensitization: How Useful Are Our Current Tools? *Chemical Research in Toxicology* 2021, 34:473-482. doi: 10.1021/acs.chemrestox.0c00320. (IF 4.0)
181. **Hartung** T. Pyrogen testing revisited on occasion of the 25th anniversary of the whole blood test. *ALTEX* 2021, 38:3-19. doi: 10.14573/altex.2101051. (IF 6.3)
182. **Hartung** T. Evidence integration in the era of information flooding – the advent of the comprehensive review. *Frontiers in Public Health* 2021, 9:763828. doi: 10.3389/fpubh.2021.763828. (IF 5.2)
183. **Hartung** T and Tsatsakis AM. The state of the Scientific Revolution in Toxicology. *ALTEX* 2021, 38:379-386. doi:10.14573/altex.2106101. (IF 6.3)
184. Hoffmann S, Margliani B, Akgün-Ölmez SG, Ireland D, Cruz R, Busquet F, Flick B, Lalu M, Ghandakly EC, de Vries R, Witters H, Wright RA, Ölmez M, Willett C, **Hartung** T, Stephens ML and Tsaïoun K. A systematic review to compare chemical hazard predictions of the zebrafish embryo test with mammalian prenatal developmental toxicity. *Toxicological Sciences* 2021, 183:14–35. doi: 10.1093/toxsci/kfab072 (IF 4.1)
185. Hogberg HT, de Cássia da Silveira e Sá R, Kleensang A, Bouhifd M, Cemiloglu Ulker O, Smirnova L, Behl M, Maertens A, Zhao L and **Hartung** T. Organophosphorus flame retardants are developmental neurotoxicants in a rat primary BrainSphere in vitro model, *Arch Toxicol* 2021, 95:207-228, doi: 10.1007/s00204-020-02903-2 (IF 6.2).
186. Kang I, Smirnova L, Kuhn JH, Hogberg HT, Kleinstreuer NC and **Hartung** T. COVID-19 – prime time for microphysiological systems, as illustrated for the brain, *ALTEX* 2021, 38:535-549. doi: 10.14573/altex.2110131. (IF 6.3)
187. Knight J, Rovida C, Kreiling R, Zhu C, Knudsen M and **Hartung** T. Continuing animal tests on cosmetic ingredients for REACH in the EU. *ALTEX*, 2021 38:653-668. doi: 10.14573/altex.2104221. (IF 6.3)
188. Locke PA, Singer M and **Hartung** T. The Humane Research and Testing Act: Advancing Science by Creating a New Center for Alternatives at the US National Institutes of Health. *ALTEX* 2021, 38:678-680. doi: 10.14573/altex.2106031. (IF 6.3)
189. Maertens A, Golden E and **Hartung** T. Avoiding Regrettable Substitutions: Green Toxicology for Sustainable Chemistry. *ACS Sustainable Chemistry & Engineering* 2021, 9, 23, 7749–7758. Doi: 10.1021/acssuschemeng.0c09435 (IF 9.2)
190. Mansouri K, Karmaus A, Fitzpatrick J, Patlewicz G, Pradeep P, Alberga D, Alepee N, Allen T, Allen D, Alves VM, Andrade CH, Auernhammer TT, Ballabio D, Bell S, Benfenati E, Bhattacharya S, Bastos JV, Boyd S, Brown JB, Capuzzi SJ, Chushak Y, Ciallella H, Clark AM, Consonni V, Daga PR, Ekins S, Farag S, Fedorov M, Fourches D, Gadaleta D, Gao F, Gearhart JM, Goh G, Goodman JM, Grisoni F, Grulic CM, **Hartung** T, Hirn M, Karpov P, Korotcov A, Lavado GJ, Lawless M, Li X, Luechtefeld T, Lunghini F, Mangiatordi GF, Marcou G, Marsh D, Martin T, Mauri A, Muratov EN, Myatt GJ, Nguyen D-T, Nicolotti O, Note R, Pande P, Parks AK, Peryea T, Polash A, Rallo R, Roncaglioni A, Rowlands C, Ruiz P, Russo D, Sayed A, Sayre R, Sheils T, Siegel C, Silva AC, Simeonov A, Sosnin S, Southall N, Strickland J, Tang Y, Teppen B, Tetko IV, Thomas D, Tkachenko V, Todeschini R, Toma C, Tripodi I, Trisciuzzi D, Tropsha A, Varnek A, Vukovic K, Wang Z, Wang L, Waters KM, Wedlake AJ, Wijeyesakere SJ, Wilson D, Xiao Z, Yang H,

Zahoranszky-Kohalmi G, Zakharov AV, Zhang FF, Zhang Z, Zhao T, Zhu H, Zorn KM, Casey W and Kleinstreuer NC. CATMoS: Collaborative Acute Toxicity Modeling Suite. *Environmental Health Perspectives* 2021, 129:47013. doi: 10.1289/EHP8495 (IF 8.1)

191. Modafferi S, Zhong X, Kleensang A, Murata Y, Fagiani F, Pamies D, Hogberg HT, Calabrese V, Lachman H, **Hartung** T and Smirnova L. Gene–environment interactions in developmental neurotoxicity: a case study of synergy between chlorpyrifos and CHD8 knockout in human BrainSpheres. *Environmental Health Perspectives* 2021, 129:77001. Doi: 10.1289/EHP8580 (IF 8.1)
192. Roth A and MPS-WS Berlin 2019 [Marx U, Vilén L, Ewart L, Griffith LG, **Hartung** T, Ingber DE, Mendrick DL, Steger-Hartmann T and Tagle DA]. Human microphysiological systems for drug development. *Science* 2021, 373:1304-1306. DOI: 10.1126/science.abc3734 (IF 47.7)
193. Sarigiannis DA, **Hartung** T and Karakitsios SP. The exposome—a new paradigm for non-animal toxicology and integrated risk assessment. In: Tsatsakis AM. *Toxicological Risk Assessment and Multi-System Health Impacts from Exposure*. Elsevier, Academic Press, London, 2021, 23-30.
194. Spoladore J, Lopes IG, Bachinski RF, Negherbon JP, **Hartung** T, Granjeiro JM and Alves GG. Standardized pyrogen testing of health products with bacterial endotoxin tests (BET) as a substitute for rabbit pyrogen testing (RPT): a scoping review. *Toxicology In Vitro*, 2021, 74, 105160. Available online: doi: 10.1016/j.tiv.2021.105160. (IF 3.7)
195. Tran V, Kim R, Maertens M, **Hartung** T and Maertens A. Similarities and differences in gene expression networks between the breast cancer cell line MCF-7 and invasive human breast cancer tissues. *Frontiers in Artificial Intelligence, section Medicine and Public Health* 2021, 4:674370. doi: 10.3389/frai.2021.674370 (IF 4.0)
196. Vinken M, Benfenati E, Busquet F, Castell J, Clevert D-A, de Kok T, Dirven H, Fritsche E, Geris L, Gozalbes R, **Hartung** T, Jennen D, Jover R, Kandarova H, Kramer N, Krul C, Luechtefeld T, Masereeuw R, Roggen E, Schaller S, Vanhaecke T, Yang C, and Piersma AH. Safer chemicals using less animals: kick-off of the European ONTOX project. *Toxicology* 2021, 458, 152846, doi: 10.1016/j.tox.2021.152846. (IF 4.6).
197. Wang T, Liu H, Itoh K, Oh S, Zhao L, Murata D, Sesaki H, **Hartung** T, Na CH and Wang J. C9orf72 regulates energy homeostasis by stabilizing mitochondrial complex I assembly. *Cell Metabolism* 2021, 33:531-546.e9. doi: 10.1016/j.cmet.2021.01.005 (IF 20.1)

## 2020

198. Aschner M, Paoliello MMB, Domingo JL; Spandidos DA, Mally A, Wallace HE; Rakitskii VN, **Hartung** T and Tsatsakis A. When the boundaries between science and politics are blurred. *Toxicology Reports* 2020, 7:1607. Doi: 10.1016/j.toxrep.2020.11.010 (IF 0.8)
199. Ball N, Madden J, Mathea N, Sperber S, **Hartung** T and van Ravenzwaay B. Key read across framework components and biology based improvements. *Mutation Research - Genetic Toxicology and Environmental Mutagenesis* 2020, 853:503172. Doi: 10.1016/j.mrgentox.2020.503172 (IF 3.2)
200. Bullen CK, Hogberg HT, Bahadirli-Talbott A, Bishai WR, **Hartung** T, Keuthan C, Looney MM, Peckosz A, Romero C, Sillé FCM, Um P and Smirnova L. Infectability of human BrainSphere neurons suggests neurotropism of SARS-CoV-2, *ALTEX* 2020, 37:665-671. doi: 10.14573/altex.2006111 (IF 6.3)
201. Busquet F, Kleensang A, Rovida C, Herrmann K, Leist M and **Hartung** T. New European Union statistics on laboratory animal use – what really counts! *ALTEX* 2020, 37:167-186. 10.14573/altex.2003241, supplement available at: <https://www.altex.org/index.php/altex/article/view/1755/1720> (IF 6.3)
202. Busquet F, **Hartung** T, Rovida C, Pallocca G and Leist M. Harnessing the power of novel animal-free test methods for the development of COVID-19 drugs and vaccines. *Arch Toxicol* 2020, 94:2263–2272. Doi: 10.1007/s00204-020-02787-2. (IF 6.2).
203. Calina D, **Hartung** T, Docea AO, Spandidos DA, Egorov AM, Shtilman MI, Carvalho F, and Tsatsakis A. COVID-19 vaccines: Ethical framework concerning human challenge studies. *DARU Journal of Pharmaceutical Sciences* 2020, 28:807–812. doi: 10.1007/s40199-020-00371-8. (IF 4.1)

204. Evans AM, O'Donovan C, Playdon M, Beecher C, Beger RD, Bowden JA, Broadhurst D, Clish CB, Dasari S, Dunn W, Griffin JL, **Hartung** T, Hsu P-C, Huan T, Jans J, Jones C, Kachman M, Kleensang A, Lewis MR, Monge ME, Mosley J, Taylor E, Theodoridis G, Torta F, Ubhi BK and Vuckovic D on behalf of the Metabolomics Quality Assurance and Quality Control Consortium (mQACC). Dissemination and analysis of the quality assurance (QA) and quality control (QC) practices of LC-MS based untargeted metabolomics practitioners. *Metabolomics* 2020, 16:113. Doi: 10.1007/s11306-020-01728-5 (IF 4.7)
205. Flanagan E, Lamport D, Brennan L, Burnet P, Calabrese V, Cunnane SC, de Wilde MC, Dye L, Farrimond JA, Emerson Lombardo N, Hartmann T, **Hartung** T, Kalliomäki M, Kuhnle G, La Fata G, Sala-Vila A, Samieri C, Smith AD, Spencer JPE, Thuret S, Tuohy K, Turrone S, Vanden Berghe W, Verkuyl M, Verzijden K, Yannakoulia M, Geurts L and Vauzour D. Nutrition and the ageing brain: Moving towards clinical applications. *Ageing Research Reviews* 2020, 101079. Doi: 10.1016/j.arr.2020.101079. (IF 10.4)
206. Krewski D, Andersen M, Tyshenko MG, Krishnan K, **Hartung** T, Boekelheide K, Wambaugh JF, Jones D, Whelan M, Thomas R, Yauk C, Barton-Maclaren T and Cote I. Toxicity Testing in the 21st Century: Progress in the past decade and future perspectives. *Arch Toxicol* 2020, 94:1–58 (IF 6.2).
207. Libowitz L, Bloem MW, Hugas M, Tsaïoun K, Url B and **Hartung** T. EFSA – Johns Hopkins Food Safety Symposium 2019. *ALTEX* 2020, 37:312-314. 10.14573/altex.2002181 (IF 6.3)
208. Maertens A and **Hartung** T. Green toxicology meets nanotoxicology: the process of sustainable nanomaterial development and use. Puzyn T (Ed.): *Computational Nanotoxicology: Challenges, Pitfalls, and Perspectives*. 2020 Jenny Stanford Publishing Pte. Ltd., pp. 495-506.
209. Maertens A, Tran V, Maertens M, Kleensang A, Luechtefeld T, **Hartung** T, and Paller C. Functionally enigmatic genes in cancer: using TCGA data to map the limitations of annotations. *Scientific Reports* 2020, 10:4106. Doi: 10.1038/s41598-020-60456-x. (IF 5.0)
210. Marx U, Akabane T, Andersson TB, Baker E, Beilmann M, Beken S, Brendler-Schwaab S, Cirit M, David R, Dehne E-M, Durieux I, Ewart L, Fitzpatrick SC, Frey O, Fuchs F, Griffith LG, Hamilton GA, **Hartung** T, Hoeng J, Hogberg H, Hughes DJ, Ingber DE, Iskandar A, Kanamori T, Kojima H, Kuehnl J, Leist M, Li B, Loskill P, Mendrick DL, Neumann T, Pallocca G, Rusyn I, Smirnova L, Steger-Hartmann T, Tagle DA, Tonevitsky A, Tsyb S, Trapecar M, van de Water B, van den Eijnden-van Raaij J, Vulto P, Watanabe K, Wolf A, Zhou X and Roth A. Biology-inspired microphysiological systems to advance medicines for patient benefit and animal welfare. *ALTEX* 2020, 37:364-394. doi: 10.14573/altex.2001241 (IF 6.3)
211. Pamies D, Zurich M-G and **Hartung** T. Organotypic models to study human glioblastoma – studying the beast in its ecosystem. *iScience* 2020, 23:101633. Doi: 10.1016/j.isci.2020.101633 (IF 5.8)
212. Pamies D, Leist M, Coecke S, Bowe G, Allen D, Gstraunthaler G, Bal-Price A, Pistollato F, DeVries R, **Hartung** T and Stacey G. Good Cell and Tissue Culture Practice 2.0 (GCCP 2.0) – Draft for Stakeholder Discussion and Call for Action. *ALTEX* 2020, 37:490-492. doi:10.14573/altex.2007091 (IF 6.3)
213. Rovida C, Barton-Maclaren T, Benfenati E, Caloni F, Chandrasekera C, Chesne C, Cronin MTD, De Knecht J, Dietrich DR, Escher SE, Fitzpatrick S, Flannery B, Herzler M, Hougaard Bennekou S, Hubesch B, Kamp H, Kisitu J, Kleinstreuer N, Kovarich S, Leist M, Maertens A, Nugent K, Pallocca G, Pastor M, Patlewicz G, Pavan M, Presgrave O, Smirnova L, Schwarz M, Yamada T and **Hartung** T. Internationalisation of read-across as a validated new approach method (NAM) for regulatory toxicology. *ALTEX* 2020, 37:579-606. doi: 10.14573/altex.1912181. (IF 6.3)
214. Sillé FCM, Karakitsios S, Kleensang A, Koehler K, Maertens A, Miller GW, Prasse C, Quiros-Alcala L, Ramachandran G, Rappaport SM, Rule AM, Sarigiannis D, Smirnova L and **Hartung** T. The exposome – a new approach for risk assessment. *ALTEX* 2020, 37: 3-23. doi: 10.14573/altex.2001051. (IF 6.3)
215. Steimberg N, Bertero A, Chiono V, Dell'Era P, Di Angelantonio S, **Hartung** T, Perego S, Raimondi M, Xinaris C, Caloni F, De Angelis I, Alloisio S, Baderna D. iPS, organoids and 3D models as advanced tools for in vitro toxicology. *ALTEX* 2020, 37:136-40. doi: 10.14573/altex.1911071. (IF 6.3)

216. Zhong X, Harris G, Smirnova L, Zufferey V, de Cássia da Silveira e Sá R, Baldino Russo F, Baleeiro Beltrao Braga PC, Chesnut M, Zurich M-G, Hogberg H, **Hartung** T and Pamies D. Paroxetine exerts developmental neurotoxicity in an iPSC derived 3D human brain model. *Frontiers in Cellular Neuroscience* 2020, 14: 25. doi: 10.3389/fncel.2020.00025. **(IF 5.3)**.

## 2019

217. Beger RD, Dunn WB, Bandukwala A, Bethan B, Broadhurst D, Clish CB, Dasari S, Derr L, Evans A, Fischer S, Flynn T, **Hartung** T, Herrington D, Higashi R, Hsu P-C, Jones C, Kachman M, Karuso H, Kruppa G, Lippa K, Maruvada P, Mosley J, Ntai I, O'Donovan C, Playdon M, Raftery D, Shaughnessy D, Souza A, Spaeder T, Spalholz B, Tayyari F, Ubhi B, Verma M, Walk T, Wilson I, Witkin K, Bearden DW and Zanetti KA. Towards quality assurance and quality control in untargeted metabolomics studies. *Metabolomics* (2019) 15: 4. <https://doi.org/10.1007/s11306-018-1460-7>. **(IF 4.7)**

218. Beilmann M, Boonen H, Czich A, Dear G, Hewitt P, Mow T, Newham P, Oinonen T, Pognan F, Roth A, Valentin J-P, van Goethem F, Weaver R J, Birk B, Boyer B, Caloni F, Chen AE, Corvi R, Cronin MTD, Daneshian M, Ewart LC, FitzGerald RE, Hamilton GA, **Hartung** T, Kangas JD, Kramer NI, Leist M, Marx U, Polak S, Rovida C, Testai E, van de Water B, Vulto P, and Steger-Hartmann T. Optimizing drug discovery by Investigative Toxicology: Current and future trends. *ALTEX* 2019, 36:3-17. Doi: 10.14573/altex.1808181 **(IF 6.3)**.

219. Corvi R, Spielmann H and **Hartung** T. Alternative approaches for carcinogenicity and reproductive toxicity. In: Balls M, Combes R and Worth A. *The History of Alternative Test Methods in Toxicology* (chapter 3.7). 2019, 209-218. Elsevier, Academic Press, London. eBook ISBN: 9780128136980, Paperback ISBN: 9780128136973.

220. Goldberg A, Leist M and **Hartung** T. The Center for Alternatives to Animal Testing (CAAT) in the USA and Europe. In: Balls M, Combes M and Worth A. *The History of Alternative Test Methods in Toxicology* (chapter 2.11). 2019, 109-118. Elsevier, Academic Press, London. eBook ISBN: 9780128136980, Paperback ISBN: 9780128136973.

221. **Hartung** T, de Vries R, Hoffmann S, Hogberg H, Smirnova L, Tsaion K, Whaley P and Leist M. Toward Good In Vitro Reporting Standards. *ALTEX* 2019, 36:3-17. Doi: 10.14573/altex.1812191. **(IF 6.3)**

222. **Hartung** T. Research and testing without animals – where are we now and where are we heading? in: Herrman K and Jayne K (Eds), *Animal experimentation: Working towards a paradigm change*. Brill, Leiden, The Netherlands, 673-686

223. **Hartung** T. Predicting toxicity of chemicals: software beats animal testing. *EFSA Journal* 2019, 17, Issue S1, e170710. Doi: 10.2903/j.efsa.2019.e170710 **(IF 3.3)**

224. **Hartung** T. La sperimentazione farmacologica sugli animali. In: Fedi B and Corsini M. *L'errore antropocentrico – uomo – natura – altri viventi*. Mimesis Edizioni, Milano, 2019, 207-210.

225. Karaulov AV, Renieri EA, Smolyagin AI, Mikhaylova IV, Stadnikov AA, Begun DN, Tsarouhas K, Buha A, **Hartung** T and Tsatsakis A. Long-term effects of chromium on morphological and immunological parameters of Wistar rat. *Food Chem Toxicol.* 2019, 133:110748. doi: 10.1016/j.fct.2019.110748. **(IF 5.6)**

226. Krebs A, Waldmann T, Wilks MF, van Vugt-Lussenburg BMA, van der Burg B, Terron A, Steger-Hartmann T, Ruegg J, Rovida C, Pedersen E, Pallocca G, Luijten M, Leite SB, Kustermann S, Kamp H, Hoeng J, Hewitt P, Herzler M, Hengstler JG, Heinonen T, **Hartung** T, Hardy B, Gantner F, Fritsche E, Fant K, Ezendam J, Exner T, Dunkern T, Dietrich DR, Coecke S, Busquet F, Braeuning A, Bondarenko O, Bennekou SH, Beilmann M and Leist M. Template for the description of cell-based toxicological test methods to allow evaluation and regulatory use of the data. *ALTEX* 2019 36:682-699. doi: 10.14573/altex.1909271. **(IF 6.3)**

227. Leite PEC, Pereira MR, Harris G, Pamies D, Gobbo dos Santos LM, Granjeiro JM, Hogberg HT, **Hartung** T and Smirnova L. Suitability of 3D human brain spheroid models to distinguish toxic effects of gold and poly-lactic acid nanoparticles to assess biocompatibility for brain drug delivery. *Particle and Fiber Toxicology* 2019, 16:22. Doi: 10.1186/s12989-019-0307-3. **(IF 9.1)**

228. Luechtefeld T, Marsh D and **Hartung** T. Missing the difference between big data & artificial intelligence in RASAR versus traditional QSAR. *Toxicological Sciences* 2019, 167:4–5, <https://doi.org/10.1093/toxsci/kfy287> (IF 4.1)
229. Nguyen T, Kirsch BJ, Asaka R, Nabi K, Quinones A, Tan J, Antonio MJ, Camelo F, Li T, Nguyen S, Hoang G, Nguyen K, Udupa S, Sazeides C, Shen Y-A, Elgogary A, Reyes J, Zhao L, Kleensang A, Chaichana, KL, **Hartung** T, Betenbaugh MJ, Marie SK, Jung JG, Wang T-L, Gabrielson E and Le A. Uncovering the Role of N-Acetyl-Aspartyl-Glutamate as a Glutamate Reservoir in Cancer. *Cell Reports* 2019, 27:491–501.e6. <http://doi.org/10.1016/j.celrep.2019.03.036> (IF 10.0)
230. Plummer S, Wallace S, Ball G, Lloyd R, Schiapparelli P, Quiñones-Hinojosa A, **Hartung** T and Pamies D. A Human iPSC-derived 3D platform using primary brain cancer cells to study drug development and personalized medicine. *Scientific Reports* 2019, 9:1407. Doi: 10.1038/s41598-018-38130-0 (IF 5.0)
231. Russo DP, Strickland J, Karmaus AL, Wang W, Shende S, **Hartung** T, Aleksunes LM and Zhu H. Nonanimal Models for Acute Toxicity Evaluations: Applying Data-Driven Profiling and Read-Across. *Environmental Health Perspectives* 2019, 127:047001–14. <http://doi.org/10.1289/EHP3614> (IF 8.1)
232. Stephens M, Akgün-Ölmez Gül S, Hoffmann S, de Vries R, Flick B, **Hartung** T, Lalu M, Maertens A, Witters H, Wright R and Tsaïoun K. Adaptation of the systematic review framework to the assessment of toxicological test methods: early lessons learned using the zebrafish embryotoxicity test as the test case. *Toxicological Sciences* 2019, 171:56–68. doi: 10.1093/toxsci/kfz128 (IF 4.1)
233. Tsatsakis A, Tyshko NV, Docea AO, Shestakova SI, Sidorova YS, Petrov NA, Zlatian O, Mach M, **Hartung** T and Tutelyan VA. The effect of chronic vitamin deficiency and long term very low dose exposure to 6 pesticides mixture on neurological outcomes – a real-life risk simulation approach. *Toxicology Letters* 2019, 315:96-106. <https://doi.org/10.1016/j.toxlet.2019.07.026> (IF 4.4)

## 2018

234. Abreu CM, Gama L, Krasemann S, Chesnut M, Odwin-Dacosta S, Hogberg H, **Hartung** and Pamies D. Microglia increase inflammatory responses in iPSC-derived human BrainSpheres. *Frontiers Microbiology* 2018, *Front Microbiol.* 2018; 9: 2766. doi: 10.3389/fmicb.2018.02766. (IF 6.1)
235. Alves VM, Capuzzi SJ, Braga RC, Borba JVB, Silva AC, Luechtefeld T, **Hartung** T, Andrade CH, Muratova EN and Tropsha A. A perspective and a new integrated computational strategy for skin sensitization assessment. *ACS Sustainable Chemistry & Engineering* 2018, 6:2845-2859. (IF 9.2)
236. Chesnut M, Yamada T, Adams T, Knight D, Kleinstreuer N, Kass G, Luechtefeld T, **Hartung** T and Maertens A. Regulatory Acceptance of Read-Across: Report from an International Satellite Meeting at the 56th Annual Meeting of the Society of Toxicology. *ALTEX* 2018, 35:413-419. (IF 6.3)
237. Delp J, Gutbier S, Cerff M, Zasada C, Niedenführ S, Zhao L, Smirnova L, **Hartung** T, Borlinghaus H, Schreiber F, Bergemann J, Gätgens J, Beyss M, Azzouzi S, Waldmann T, Kempa S, Nöh K, and Leist M. Stage-specific metabolic features of differentiating neurons: implications for toxicant sensitivity. *Toxicology Applied Pharmacology* 2018, 354:64-80. doi: 10.1016/j.taap.2017.12.013. (IF 4.5)
238. Harris G, Eschment M, Perez Orozco S, McCaffery JM, Severin D, Kleensang A, Freeman D, Pamies D, Delp J, Leist M, Maertens A, Hogberg H, Kirkwood A, **Hartung** T and Smirnova L. Toxicity, recovery and resilience in a 3D dopaminergic in vitro model exposed to Rotenone. *Arch Toxicol* 2018, 92:2587-2606. (IF 6.2).
239. **Hartung** T. Making big sense from big data. *Frontiers in Big Data*, 2018, *Frontiers in Big Data* 1:5. doi: 10.3389/fdata.2018.00005 (IF 3.1)
240. **Hartung** T. Rebooting the Generally Recognized as Safe (GRAS) approach for food additive safety in the US. *ALTEX* 2018, 35:3-25. <https://doi.org/10.14573/altex.1712181>. (IF 6.3)

241. **Hartung T.** Perspectives on *in vitro* to *in vivo* extrapolations. *Applied In Vitro Toxicology* 2018, 4:305–316. Doi: 10.1089/aivt.2016.0026. **(IF 0.5)**
242. **Hartung, T.** Alternatives to animal testing. In: Greim H and Snyder R. *Toxicology and Risk Assessment: A Comprehensive Introduction*, 2<sup>nd</sup> edition, 2018, Wiley, p.461-471
243. Luechtefeld T, Rowlands C and **Hartung T.** Big-data and machine learning to revamp computational toxicology and its use in risk assessment. *Toxicological Research* 2018, 7:732-744, doi:10.1039/C8TX00051D. **(IF 3.0)**
244. Luechtefeld T, Marsh D, Rowlands C and **Hartung T.** Machine learning of toxicological big data enables read-across structure activity relationships (RASAR) outperforming animal test reproducibility. *Toxicological Sciences*, 2018, 165:198-212. doi: 10.1093/toxsci/kfy152. **(IF 4.3)**
245. Maertens A and **Hartung T.** Green toxicology – know early about and avoid toxic product liabilities. *Toxicol. Sci.* 2018, 161:285–289. DOI: 10.1093/toxsci/kfx243. **(IF 4.1)**
246. Maertens A, Tran V, Kleensang A and **Hartung T.** Weighted gene correlation network analysis (WGCNA) reveals novel transcription factors associated with Bisphenol A dose-response. *Frontiers in Genetics*, section Bioinformatics and Computational Biology 2018, 9:508. doi: 10.3389/fgene.2018.00508. **(IF 4.8)**
247. Meigs L, Smirnova L, Rovida C, Leist M and **Hartung T.** Animal testing and its alternatives – the most important omics is economics. *ALTEX* 2018, 35:275-305. doi: 10.14573/altex.1807041 **(IF 6.3)**
248. Pamies D, Block K, Lau P, Gribaldo L, Pardo C, Barreras P, Smirnova L, Wiersma D, Zhao L, Harris G, **Hartung T** and Hogberg HT. Rotenone exerts developmental neurotoxicity in a Human Brain Spheroid model. *Toxicol Appl Pharmacol* 2018, 354:101-114. doi: 10.1016/j.taap.2018.02.003. **(IF 4.5)**
249. Pamies D, Bal-Price A, Chesne C, Coecke S, Dinnyes A, Eskes C, Grillari, Gstraunthaler G, **Hartung T**, Jennings, P., Leist M, Martin U, Passier R, Schwamborn JC, Stacey GN, Ellinger-Ziegelbauer H and Daneshian M. Advanced Good Cell Culture Practice for human primary, stem cell-derived and organoid models as well as microphysiological systems. *ALTEX*, 2018, 35:353-378. doi:10.14573/altex.1710081. **(IF 6.3)**
250. Ramirez T, Strigun A, Verlohner A, Huener H-A, Peter E, Herold M, Mellert W, Walk T, Spitzer M, **Hartung T**, Kamp H and van Ravenzwaay B. Prediction of liver toxicity and mode of action using metabolomics *in vitro*. *Arch Toxicol* 2018, 92:893-906. doi: 10.1007/s00204-017-2079-6 **(IF 6.2).**
251. Smirnova L, Kleinstreuer N, Corvi R, Levchenko A, Fitzpatrick SC and **Hartung T.** 3S – Systematic, systemic, and systems biology and toxicology. *ALTEX* 2018, 35:139-162. doi:10.14573/altex.1804051 **(IF 6.3)**
252. Smirnova, L., and **Hartung, T.** Human 3D *in vitro* models for developmental neurotoxicity. In Slikker W, Paule MG and Wang C (eds.). *Handbook of Developmental Neurotoxicology*, 2<sup>nd</sup> edition, Chapter 14, 2018, 163–172, Elsevier. <http://doi.org/10.1016/B978-0-12-809405-1.00014-6>.
253. Volz T, Kaesler S, Draing C, **Hartung T**, Röcken M, Skabytska Y and Biedermann T. Induction of IL-10-balanced immune profiles following exposure to LTA from *Staphylococcus epidermidis*. *Experimental Dermatology*, 27:318-326. **(4.5)**

## 2017

254. Aschner M, Ceccatelli S, Daneshian M, Fritsche E, Hasiwa N, **Hartung T**, Hogberg HT, Leist M, Li A, Mundy WR, Padilla S, Piersma AH, Bal-Price A, Seiler A, Westerink R, Zimmer B and Lein P. Selection of reference compounds for characterization and development of alternative methods for developmental neurotoxicity (DNT) testing. *ALTEX* 2017, 34:49-74. doi: 10.14573/altex.1604201 **(IF 6.3)**
255. Bowman CE, Rodriguez S, Alpergin ESS, Acoba MG, Zhao L, **Hartung T**, Claypool SM, Watkins PA and Wolfgang MJ. The mammalian malonyl-CoA synthetase ACSF3 is required for mitochondrial protein malonylation and metabolic efficiency. *Cell Chem. Biol.* 2017, 24:673-684.e4. doi: 10.1016/j.chembiol.2017.04.009. **(IF 9.0).**

256. Busquet F and **Hartung T**. The need for strategic development of safety sciences. *ALTEX* 2017, 34:3-21. doi: 10.14573/altex.1701031 (IF 6.3)
257. Crawford SE, **Hartung T**, Hollert H, Mathes B, van Ravenzwaay B, Steger-Hartman T, Studer C and Krug HF. Green toxicology: A strategy for sustainable chemical and material development. *Environmental Sciences Europe* 2017, 29:16. doi: 10.1186/s12302-017-0115-z. (IF 5.5).
258. Elgogary A, Xu Q, Poore B, Alt J, Zimmermann SC, Zhao L, Fu J, Chen B, Xia S, Liu Y, Neisser M, Nguyen C, Lee R, Park JK, Reyes J, **Hartung T**, Rojas C, Rais R, Tsukamoto T, Semenza GL, Hanes J, Slusher BS and Le A. Combination therapy with BPTES nanoparticles and metformin targets the metabolic heterogeneity of pancreatic cancer. *Proc. Natl. Acad. Sci. U S A* 2017, 113:E5328-5336. DOI: 10.1073/pnas.1611406113 (IF 12.8)
259. Escher BI, Hackermüller J, Polte T, Scholz S, Aigner A, Altenburger R, Böhme A, Bopp SK, Brack W, Busch W, Chadeau-Hyam M, Covaci A, Eisenträger A, Galligan J, Garcia-Reyero N, **Hartung T**, Hein M, Herberth G, Jahnke A, Kleinjans J, Kluever N, Krauss M, Lamoree M, Lehmann I, Luckenbach T, Miller GW, Mueller A, Phillips DH, Rappaport SM, Reemtsma T, Rolle-Kampczyk U, Schüürmann G, Schwikowski B, Tan Y-M, Trump S, Walter-Rohde S and Wambaugh JF. From the exposome to mechanistic understanding of chemical-induced adverse effects. *Environment International* 2017, 99:97–106. Doi: 10.1016/j.envint.2016.11.029 (IF 13.4)
260. Eskes C, Boström A-C, Bowe G, Coecke S, **Hartung T**, Hendriks G, Pamies D, Piton A and Rovida C. Good Cell Culture Practices & In Vitro Toxicology. *Toxicology In Vitro* 2017, 45:272-277. doi: 10.1016/j.tiv.2017.04.022. (IF 3.7)
261. Fowle JJR III, Curren RD, **Hartung T**, Proctor C and Wilcox N. Twenty-First Century In Vitro Toxicology Testing Methods and the Assessment of e-Cigarettes. *Applied in Vitro Toxicology* 2017, 3: 3–9. <http://doi.org/10.1089/aivt.2017.29011.rtl> (IF 0.5)
262. Harris G, Hogberg H, **Hartung T** and Smirnova L. 3D differentiation of LUHMES cell line to study recovery and delayed neurotoxic effects. *Current Protocols in Toxicology* 2017, 73, 11.23.1–11.23.28. doi: 10.1002/cptx.29. (IF 0.6).
263. **Hartung T**. Thresholds of Toxicological Concern – setting a threshold for testing where there is little concern. *ALTEX* 2017, 34:331-351. doi: 10.14573/altex.1707011. (IF 6.3)
264. **Hartung T**. Utility of the Adverse Outcome Pathway concept in drug development. *Expert Opinion in Drug Metabolism and Toxicology* 2017, 13:1-3. Doi: 10.1080/17425255.2017.1246535 (IF 4.9)
265. **Hartung T**, Hogberg HT, Leist M, Pamies D and Smirnova L. Advanced cell techniques to study developmental neurobiology and toxicology. In: Slikker W and Wang C. *Neural Cell Biology*. Chapter 18. 2017, Taylor & Francis Group, LLC, 187-217.
266. **Hartung T**. Alternativen zu Tierversuchen. In: Greim H. *Das Toxikologiebuch: Grundlagen, Verfahren, Bewertung*, 2017, Wiley, 577-589.
267. **Hartung T**. Evolution of toxicological science: the need for change. *International Journal of Risk Assessment and Management* 2017, 20:21-45.
268. **Hartung T** and Rovida C. Prospettive della ricerca scientifica attraverso metodi alternative alla sperimentazione animale. In: Ferroni MV and Campanaro C. (Ed). *Metodi alternative alla sperimentazione animale*. G. Giappichelli Editore, Torino, 17-23.
269. **Hartung T**, Kavlock R and Sturla S. Systems Toxicology II: a special issue. *Chemical Research in Toxicology* 2017, 30:869–869. (IF 4.0)
270. **Hartung T**. Opinion versus evidence for the need to move away from animal testing. *ALTEX* 2017, 34:193-200. (IF 6.3)
271. **Hartung T**. Food for Thought ... the first ten years. *ALTEX* 2017, 34:187-192. (IF 6.3)
272. **Hartung T**, FitzGerald R, Jennings P, Miriams G, Peitsch M, Rostami-Hodjegan A, Shah I, Wilks M, and Sturla S. Systems toxicology - Real world applications and opportunities. *Chemical Research in Toxicology* 2017, 30:870–882. DOI: 10.1021/acs.chemrestox.7b00003. (IF 4.0)
273. **Hartung T**. A Comprehensive Overview of the Current Status and Application of Predictive ADMET. In: *Experimental ADME and Toxicology, Comprehensive Medicinal Chemistry III*. 2017, 4-8:150-155. Doi: 10.1016/B978-0-12-409547-2.12378-9

274. Hoffmann S, de Vries RBM, Stephens ML, Beck NB, Dirven H, Fowle JR III, Goodman JE, **Hartung** T, Kimber I, Lalu MM, Thayer K, Whaley P, Wikoff D and Tsaion K. A primer on systematic reviews in toxicology. *Archives of Toxicology* 2017, 91:2551–2575. DOI 10.1007/s00204-017-1980-3. (IF 6.2)
275. Kaesler S, Skabytska Y, Chen K-M, Kempf WE, Volz T, Köberle M, Wölbing F, Hein U, **Hartung** T, Kirschning C, Röcken M and Biedermann T. Staphylococcus aureus-derived lipoteichoic acid induces temporary T-cell paralysis independent of Toll-like receptor 2. *Journal of Allergy and Clinical Immunology* 2017, 138:780-790.e6. doi: 10.1016/j.jaci.2015.11.043. (IF 14.3)
276. Kerecman Myers D, Goldberg AM, Poth A, Wolf MF, Carraway J, McKim J, Coleman KP, Hutchinson R, Brown R, Krug HF, Bahinski A and **Hartung** T. From *in vivo* to *in vitro*: the medical device testing paradigm shift, *ALTEX* 2017, 34:479-500. doi: 10.14573/altex.1608081 (IF 6.3)
277. Kleensang A, Maertens A and **Hartung** T. From big data to predictive analysis from *in vitro* systems. In: Atala A and Murphy S. *Regenerative Medicine Technology: On-a-chip Applications for Disease Modeling, Drug Discovery and Personalized Medicine*. CRC Press, 2017, pp. 85-101. doi: 10.1201/9781315371344
278. Lee J, Choi J, Alpergin ESS, Zhao L, **Hartung** T, Scafidi S, Riddle RC and Wolfgang MJ. Loss of hepatic fatty acid oxidation confers resistance to diet-induced obesity and glucose intolerance. *Cell Reports* 2017, 20:655–667. doi: 10.1016/j.celrep.2017.06.080. (IF 10.0)
279. Leist M, Ghallab A, Graepel R, Marchan R, Hassan R, Hougaard, Bennekou S, Limonciel A, Vinken M, Schildknecht S, Waldmann T, Danen E, van Ravenzwaay B, Kamp H, Gardner I, Godoy P, Bois FY, Braeuning A, Reif R, Oesch F, Drasdo D, Höhme S, Schwarz M, **Hartung** T, Braunbeck T, Beltman J, Vrieling H, Sanz F, Forsby A, Gadaleta D, Fisher C, Kelm J, Fluri D, Ecker G, Zdravil B, Terron A, Jennings P, van der Burg B, Dooley S, Meijer AH, Willighagen E, Martens M, Evelo C, Mombelli E, Taboureau O, Mantovani A, Hardy B, Koch B, Escher S, van Thriel C, Cadenas C, Kroese D, van de Water B and Hengstler JG. Adverse outcome pathways: opportunities, limitations and open questions. *Archives Toxicology* 2017, 31:221–229. DOI 10.1007/s00204-017-2045-3. (IF 6.2).
280. Luechtefeld T and **Hartung** T. Computational Approaches to Chemical Hazard Assessment. *ALTEX* 2017, 34:459-478. doi: 10.14573/altex.1710141 (IF 6.3)
281. Maertens A, Bouhfid M, Zhao L, Odwin-DaCosta S, Kleensang A, Yager JD and **Hartung** T. Metabolomic network analysis of estrogen-stimulated MCF-7 cells: a comparison of over-representation analysis, quantitative enrichment analysis and pathway analysis versus metabolite network analysis. *Arch. Toxicol.* 2017, 91:217-230. DOI: 10.1007/s00204-016-1695-x (IF 6.2)
282. Myint L, Kleensang A, Zhao L, **Hartung** T and Hansen KD. Joint bounding of peaks across samples improves differential analysis in mass spectrometry-based metabolomics. *Analytical Chemistry* 2017, 89:3517-3523. doi: 10.1021/acs.analchem.6b04719. (IF 8.0)
283. Negherbon JP, Romero K, Williams DL, Guerrero-Preston RE, **Hartung** T, Scott AL, Breyse PN, Checkley W and Hansel NN. Whole blood cytokine response to local traffic-related particulate matter in Peruvian children with and without asthma. *Front Pharmacol* 2017, 8: 157. Doi: 10.3389/fphar.2017.00157 (IF 6.0)
284. Pamies D, Barreras P, Block K, Makri G, Kumar A, Wiersma D, Smirnova L, Zang C, Bressler J, Christian KM, Harris G, Ming G-L, Kyro K, Berlinicke C, Song H, Pardo CA, **Hartung** T and Hogberg HT. A human brain microphysiological system derived from iPSC to study central nervous system toxicity and disease. *ALTEX* 2017, 34:362-376. doi: 10.14573/altex.1609122. (IF 6.3)
285. Pamies D, Bal-Price A, Simeonov A, Tagle D, Allen D, Gerhold D, Yin D, Pistollato F, Inutsuka T, Sullivan K, Stacey G, Salem H, Leist M, Daneshian M, Vemuri MC, McFarland R, Coecke S, Fitzpatrick SC, Lakshminpathy U, Mack A, Wang WB, Sekino Y, Kanda Y, Smirnova L and **Hartung** T. Good Cell Culture Practice for stem cells and stem-cell-derived models. *ALTEX* 2017, 34:95-132. Doi: 10.14573/altex.1607121 (IF 6.3)
286. Pamies D and **Hartung** T. 21<sup>st</sup> century cell culture for 21<sup>st</sup> century toxicology. *Chemical Research Toxicology* 2017, 30:43–52. DOI: 10.1021/acs.chemrestox.6b00269 (IF 4.0).
287. Pendse SN, Maertens A, Rosenberg M, Roy D, Fasani R, Vantangoli M, Madnick S, Boekelheide K, Fornace A Jr, Odwin S-A, Yager J, **Hartung** T, Andersen ME and McMullen PD.

Information-dependent enrichment analysis reveals time-dependent transcriptional regulation of the estrogen pathway of toxicity. *Arch. Toxicol.* 2017, 91:1749–1762. doi: <http://dx.doi.org/10.1101/038570> (IF 6.2)

288. Russo DP, Kim MT, Wang W, Pinolini D, Shende S, Strickland J, **Hartung T** and Zhu H. CIIPro: a new read-across portal to fill data gaps using public large-scale chemical and biological data. *Bioinformatics* 2017, 33:464–466, doi: 10.1093/bioinformatics/btw640 (IF 6.9)
289. Schmidt BZ, Lehmann M, Gutbier S, Nembo E, Noel S, Smirnova L, Forsby A, Hescheler J, Avci HX, **Hartung T**, Leist M, Kobolák J and Dinnyés A. In vitro neurotoxicity screening: an overview of cellular platforms and high-throughput technical possibilities. *Arch. Toxicol.* 2017, 91:1-33. DOI 10.1007/s00204-016-1805-9. (IF 6.2)
290. Skardal A, Murphy S, Devarasetty M, Mead I, Kang H-W, Seol Y-J, Shrike Zhang Y, Ryon Shin S, Zhao L, Aleman J, Hall A, Shupe T, Kleensang A, Dokmeci M, Lee SJ, Jackson J, Yoo J, **Hartung T**, Khademhosseini A, Soker S, Bishop C, and Atala A. Multi-tissue interactions in an integrated three-tissue organ-on-a-chip platform. *Scientific Reports* 2017, 7, Article number: 8837 (2017) doi:10.1038/s41598-017-08879-x. (IF 5.0)
291. Tong Z-B, Hogberg H, Kuo D, Sakamuru S, Xia M, Smirnova L, **Hartung T** and Gerhold D. Characterization of three human cell line models for high-throughput neuronal cytotoxicity screening. *J. Appl. Toxicol.* 2017, 37:167-180. doi: 10.1002/jat.3334. (IF 3.6).
292. van Ravenzwaay B, Jiang X, Luechtefeld T and **Hartung T**. The Threshold of Toxicological Concern for prenatal developmental toxicity in rats and rabbits. *Regulatory Pharmacology and Toxicology* 2017, 88:157-172. doi: 10.1016/j.yrtph.2017.06.008. (3.6)

## 2016

293. Ankley G, Escher B, **Hartung T** and Shah I. Pathway-based approaches for environmental monitoring and risk assessment. *Environmental Science & Technology* 2016, 50: 10295–10296. DOI: 10.1021/acs.est.6b04425 (IF 5.3).
294. Ankley G, Escher B, **Hartung T** and Shah I. Pathway-based approaches for environmental monitoring and risk assessment. *Chem. Res. Toxicol.* 2016, 29, 1789–1790. DOI: 10.1021/acs.chemrestox.6b00321 (IF 4.0)
295. Ball N, Cronin MTD, Shen J, Adenuga MD, Blackburn K, Booth ED, Bouhifd M, Donley E, Egnash L, Freeman JJ, Hastings C, Juberg DR, Kleensang A, Kleinstreuer N, Kroese D, Lee AC, Luechtefeld T, Maertens A, Marty S, Naciff JM, Palmer J, Pamies D, Penman M, Richarz A-N, Russo DP, Stuard SB, Patlewicz G, van Ravenzwaay B, Wu S, Zhu H and **Hartung T**. Toward Good Read-Across Practice (GRAP) guidance. *ALTEX* 2016, 33, 149-166. Doi: 10.14573/altex.1601251. (IF 6.3)
296. Benfenati E, Berggren E, Fritsche E, **Hartung T**, Slikker W Jr, Spielmann H, Testai E, Tice RR, Tiramani M and Villenave R, 2016. Special issue: novel chemical hazard characterisation approaches. *EFSA Journal* 2016, 14(S1):s0506, 10 pp. doi:10.2903/j.efsa.2016.s0506. (IF 3.3)
297. Bowman CE, Zhao L, **Hartung T** and Wolfgang MJ. Requirement for the mitochondrial pyruvate carrier in mammalian development revealed by a hypomorphic allelic series. *Molecular Cellular Biology*, 2016, 36:2089-2104. doi: 10.1128/MCB.00166-16 (IF 5.1)
298. Busquet F, Zurlo J and **Hartung T**. Can TTIP Improve Laboratory Animal Welfare in Safety Testing and 3Rs? *ILAR J*, 2016, 57:358-367. doi: 10.1093/ilar/ilw022. (IF 1.5)
299. Busquet F, **Hartung T** and Hubert P. La fin de l'animal cobaye. In: Matignin KL. *Revolutions animales – comment les animaux sont devenus intelligents*. 2016, Arte Editions, 411-414.
300. da Silva CC, Presgrave OAF, **Hartung T**, Lage de Moraes AM, Delgado IF. Applicability of the Monocyte Activation Test (MAT) for hyperimmune sera in the routine of the quality control laboratory: Comparison with the Rabbit Pyrogen Test (RPT). *Toxicol. In Vitro* 2016, 32:70–75. (IF 3.7)
301. Fasani RA, Livi CB, Choudhury DR, Kleensang A, Bouhifd M, Pendse SN, McMullen PD, Andersen ME, **Hartung T** and Rosenberg M. The Human Toxome Collaboratorium: a shared environment for multi-omic computational collaboration within a consortium. *Frontiers in Pharmacology* 2016, 6:322. doi: 10.3389/fphar.2015.00322. (IF 6.0)

302. Ferrario D, Gribaldo L and **Hartung** T. Arsenic exposure and immunotoxicity: a review including the possible influence of age and sex. *Curr Environ Health Rep* 2016, 3:1-12. doi: 10.1007/s40572-016-0082-3. **(IF 6.5)**
303. **Hartung** T. E-Cigarettes and the need and opportunities for alternatives to animal testing. *ALTEX* 2016, 33:211-224. doi: 10.14573/altex.1606291 **(IF 6.3)**
304. **Hartung** T. Making big sense from big data in toxicology by read-across. *ALTEX*, 2016, 33:83-93. doi: 10.14573/altex.1603091. **(IF 6.3)**
305. **Hartung** T. Can we wait for e-cigarette trials? *Chemistry World* 2016, available at: <http://www.rsc.org/chemistryworld/2016/04/electronic-cigarettes-trials-vaping-safety-data>. **(IF 0.1)**
306. **Hartung** T. E-cigarettes – the ugly duckling of public health? *Scientific American* 2016, 315(2):9-9. **(IF 1.5)**
307. **Hartung** T, Borel A and Schmitz G. Detecting the broad spectrum of pyrogens with the human whole-blood monocyte activation test. *BioProcess International* 2016, 14:38-56.
308. **Hartung** T. (2016) Immunotoxicology. In: eLS. John Wiley & Sons, Ltd: Chichester. DOI: 10.1002/9780470015902.a0000955.pub3
309. Hoffmann S, **Hartung** T and Stephens M. Evidence-based toxicology. *Adv Exp Med Biol* 2016, 856:231-241. **(IF 3.7)**
310. Juberg DR, Knudsen TB, Sander M, Beck NB, Faustman EM, Mendrick DL, Fowle JR III, **Hartung** T, Tice RT, Lemazurier E, Becker RA, Fitzpatrick SC, Daston GP, Harrill A, Hines RN, Keller DA, Lipscomb JC, Watson D, Bahadori T and Crofton KM. FutureTox III: Bridges for Translation. *Toxicol Sci*, 2016, 155:22-31 doi: 10.1093/toxsci/kfw194. **(IF 4.1)**
311. Kilic O, Pamies D, Lavell E, **Hartung** T, Bal-Price A, Hogberg HT, Quinones-Hinojosa A, Guerrero-Cazares H and Levchenko A. Microphysiological brain model enables analysis of neuronal differentiation and chemotaxis. *Lab Chip* 2016,16:4152-4162. DOI: 10.1039/C6LC00946H. **(IF 6.1)**.
312. Kleensang A, Vantangoli M, Odwin-DaCosta S, Andersen ME, Boekelheide K, Bouhfid M, Fornace AJ Jr, Livi CB, Madnick S, Maertens A, Zhao L, Rosenberg M, Yager JD and **Hartung** T. Genetic variability in a frozen batch of MCF-7 cells invisible in routine authentication affecting cell function. *Scientific Reports* 2016, 6:28994-28994. Doi: 10.1038/srep28994 **(IF 5.0)**
313. Luechtefeld T, Maertens A, Russo DP, Rovida C, Zhu H and **Hartung** T. Global analysis of publicly available safety data for 9,801 substances registered under REACH from 2008-2014. *ALTEX* 2016, 33, 95-109. <http://doi.org/10.14573/altex.1510052>. **(IF 6.3)**
314. Luechtefeld T, Maertens A, Russo DP, Rovida C, Zhu H and **Hartung** T. Analysis of public oral toxicity data from REACH registrations 2008-2014. *ALTEX* 2016, 33, 111-122. <http://dx.doi.org/10.14573/altex.1510054>. **(IF 6.3)**
315. Luechtefeld T, Maertens A, Russo DP, Rovida C, Zhu H and **Hartung** T. Analysis of Draize eye irritation testing and its prediction by mining publicly available 2008-2014 REACH data. *ALTEX* 2016, 33, 123-134. Doi: 10.14573/altex.1510053. **(IF 6.3)**
316. Luechtefeld T, Maertens A, Russo DP, Rovida C, Zhu H and **Hartung** T. Analysis of publically available skin sensitization data from REACH registrations 2008-2014. *ALTEX* 2016, 33, 135-148. Doi: 10.14573/altex.1510055. **(IF 6.3)**
317. Marx U, Andersson TB, Bahinski A, Beilmann M, Beken S, Cassee FR, Cirit M, Daneshian M, Fitzpatrick S, Frey O, Gaertner C, Giese C, Griffith L, **Hartung** T, Heringa MB, Hoeng J, de Jong WH, Kojima H, Kuehnl J, Luch A, Maschmeyer I, Sakharov D, Sips AJAM, Steger-Hartmann T, Tagle DA, Tonevitsky A, Tralau T, Tsyb S, van de Stolpe A, Vandebriel R, Vulto P, Wang J, Wiest J, Rodenburg M and Roth A. Biology-inspired microphysiological system approaches to solve the prediction dilemma of substance testing using animals. *ALTEX* 2016, 33:272-321. doi: 10.14573/altex.1603161 **(IF 6.3)**
318. Pistollato F, Ohayon EL, Lam A, Langley GR, Novak T, Pamies D, Perry G, Trushina E, Williams RSB, Roher AE, **Hartung** T, Harnad S, Barnard N, Morris MC, Lai M-C, Merkley R and Chandrasekera PC. Alzheimer disease research in the 21st century: past and current failures,

new perspectives and funding priorities. *Oncotarget* 2016, 7:38999-39016. doi: 10.18632/oncotarget.9175. (IF 1.0)

319. Salem H, Dorsey R, Carmany D and **Hartung** T. In vivo, in vitro and stem cell technologies to predict human pharmacology and toxicology. In: Atala A and Murphy S. *Regenerative Medicine Technology: On-a-chip Applications for Disease Modeling, Drug Discovery and Personalized Medicine*. 2016, CRC Press, pp. 363-376. Doi: 10.1201/9781315371344
320. Samuel GO, Hoffmann S, Wright R, Lalu MM, Patlewicz G, Becker RA, DeGeorge GL, Fergusson D, **Hartung** T, Lewis J and Stephens M. Guidance on assessing the methodological and reporting quality of toxicologically relevant studies: a scoping review. *Environment International* 2016, 92-93:630-646. Doi: 10.1016/j.envint.2016.03.010 (IF 13.4)
321. Smirnova L, Harris G, Delp J, Valadares M, Pamies D, Hogberg HT, Waldmann T, Leist M and **Hartung** T. A LUHMES 3D dopaminergic neuronal model for neurotoxicity testing allowing long-term exposure and cellular resilience analysis. *Arch Toxicol* 2016, 90:2725-2743. DOI 10.1007/s00204-015-1637-z. (IF 6.2)
322. Stephens ML, Betts K, Beck NB, Cogliano V, Dickersin K, Fitzpatrick S, Freeman J, Gray G, **Hartung** T, McPartland J, Rooney AA, Scherer RW, Verloo D and Hoffmann S. The emergence of systematic review in toxicology. *Toxicol Sci*, 2016, 152:10–16. doi: 10.1093/toxsci/kfw059 (IF 4.1)
323. Tsaïoun K, Blaauboer BJ and **Hartung** T. Evidence-based absorption, distribution, metabolism, excretion and toxicity (ADMET) and the role of alternative methods. *ALTEX* 2016, 33:343-358. doi: 10.14573/altex.1610101 (IF 6.3)
324. Zhu H, Bouhifd M, Kleinstreuer N, Kroese ED, Liu Z, Luechtefeld T, Pamies D, Shen J, Strauss V, Wu S and **Hartung** T. Supporting read-across using biological data. *ALTEX* 2016, 33, 167-182. <http://doi.org/10.14573/altex.1601252>. (IF 6.3)

## 2015

325. Bal-Price A, Crofton KM, Leist M, Allen S, Arand M, Buetler T, Delrue N, FitzGerald RE, **Hartung** T, Heinonen T, Hogberg H, Hougaard Bennekou S, Lichtensteiger W, Oggier D, Paparella M, Axelstad M, Piersma A, Rached E, Schilter B, Schmuck G, Stoppini L, Tongiorgi E, Tiramani M, Monnet-Tschudi F, Wilks MF, Ylikomi T and Fritsche E. International STakeholder NETwork (ISTNET): Creating a Developmental Neurotoxicity Testing (DNT) Roadmap for Regulatory Purposes. *Arch. Toxicol.* 2015, 89:269–287. (IF 6.2)
326. Borel A, Holtkamp B, Schmitz G and **Hartung** T. Improved detection of pyrogens using the monocyte activation test. *Pharmaceut. Rev.* 2015, May:32-33.
327. Bouhifd M, Beger R, Flynn T, Guo L, Harris G, Hogberg HT, Kaddurah-Daouk R, Kamp H, Kleensang A, Maertens A, Odwin-DaCosta S, Pamies D, Robertson D, Smirnova L, Sun J, Zhao L and **Hartung** T. Quality Assurance of Metabolomics. *ALTEX*, 2015, 32:319-326. doi: 10.14573/altex.1509161 (IF 6.3)
328. Bouhifd M, Andersen ME, Baghdikian C, Boekelheide K, Crofton KM, Fornace AJ Jr., Kleensang A, Li H, Livi CB, Maertens A, McMullen PD, Rosenberg M, Thomas R, Vantangoli M, Yager JD, Zhao L and **Hartung** T. The Human Toxome project. *ALTEX* 2015, 32:112-124. doi: 10.14573/altex.1502091 (IF 6.3)
329. Daneshian M, Busquet F, **Hartung** T and Leist M. Animal use for science in Europe. *ALTEX*, 2015, 32:261-274. (IF 6.3)
330. Gordon S, Daneshian M, Bouwstra J, Caloni F, Constant S, Davies DE, Dandekar G, Guzman CA, Fabian E, Haltner E, **Hartung** T, Hasiwa N, Hayden P, Kandarova H, Khare S, Krug HF, Kneuer C, Leist M, Lian G, Marx U, Metzger M, Ott K, Prieto P, Roberts MS, Roggen EL, Tralau T, van den Braak C, Walles H and Lehr C-M. Non-animal models of epithelial barriers (skin, intestine and lung) in research, industrial applications and regulatory toxicology. *ALTEX* 2015, 32:327-378. (IF 6.3)
331. **Hartung** T. The human whole blood pyrogen test – lessons learned in twenty years. *ALTEX* 2015, 32:79-100. doi: 10.14573/altex.1503241 (IF 6.3)

332. **Hartung T**, Borel A and Schmitz G. The whole blood monocyte activation test: reliable detection of non-endotoxin pyrogens. *Innovat. Pharmaceut. Technol.* 2015.
333. **Hartung T**. Green Toxicology. In: Gocht T and Schwarz M. SEURAT-1: The proof-of-concept case studies. 2015, 59-67.
334. **Hartung T**. Toxicity testing of nanomaterials: case for in vitro tests. (chapter 5), 113-152. In: Fadeel B (Ed.) *Handbook of Safety Assessment of Nanomaterials: From Toxicological Testing to Personalized Medicine*. 2015, Pan Stanford Publishing Pte. Ltd., Singapore.
335. **Hartung T**. Safety First. *Innovations in Pharmaceutical Technology*, 2015, Issue 54:40-43.
336. Head S, Shi W, Zhao L, Gorshkov K, Pasunooti K, Chen Y, Deng Z, Li R-J, Shim JS, Tan W, **Hartung T**, Zhang J, Zhao J, Colombini M and Liu JO. The antifungal drug itraconazole targets VDAC1 to modulate the AMPK/mTOR signaling axis in endothelial cells. *Proc. Natl. Acad. Sci. U S A* 2015, 112:E7276-85. doi: 10.1073/pnas.1512867112. **(IF 12.8)**
337. Linkov I, Massey O, Keisler J, Rusyn I and **Hartung T**. From “weight of evidence” to quantitative data integration using multicriteria decision analysis and Bayesian methods. *ALTEX* 2015, 32: 3-8. doi: <http://dx.doi.org/10.14573/altex.1412231>. **(IF 6.3)**
338. Luechtefeld T, Maertens A, McKim J, **Hartung T**, Kleensang A and Sá-Rocha V. Probabilistic hazard assessment for skin sensitization potency by dose response modeling using feature elimination instead of QSAR. *J. Appl. Toxicol.* 2015, 35:1361–1371. **(IF 3.6)**
339. Maertens A, Luechtefeld T, Kleensang A and **Hartung T**. MPTP’s pathway of toxicity indicates central role of transcription factor SP1. *Arch. Toxicol.* 2015, 89:743-755. doi: 10.1007/s00204-015-1509-6. **(IF 6.2)**
340. Rovida C, Alépée N, Api AM, Basketter DA, Bois FY, Caloni F, Corsini E, Daneshian M, Eskes C, Ezendam J, Fuchs H, Hayden P, Hegele-Hartung C, Hoffmann S, Hubesch B, Jacobs MN, Jaworska J, Kleensang A, Kleinstreuer N, Lalko J, Landsiedel R, Lebreux F, Luechtefeld T, Locatelli M, Mehling A, Natsch A, Pitchford JW, Prater D, Prieto P, Schepky A, Schuurmann, G, Smirnova L, Toole C, van Vliet E, Weisensee D and **Hartung T**. Integrated Testing Strategies (ITS) for Safety Assessment. *ALTEX* 2015, 32:171-181. doi: 10.14573/altex.1506201. **(IF 6.3)**
341. Rovida C, Asakura C, Daneshian M, Hofman-Huether H, Leist M, Meunier L, Reif D, Rossi A, Schmutz M, Valentin J-P, Zurlo J and **Hartung T**. Toxicity testing in the 21<sup>st</sup> century beyond environmental chemicals. *ALTEX* 2015, 32:25-40. doi: <http://dx.doi.org/10.14573/altex.1411011>. **(IF 6.3)**
342. Sauer JM, **Hartung T**, Leist M, Knudsen TB, Hoeng J and Hayes AW. Systems Toxicology: The Future of Risk Assessment. *International Journal of Toxicology* 2015, 34:346–348. <http://doi.org/10.1177/1091581815576551> **(IF 2.4)**
343. Smirnova L, Harris G, Leist M and **Hartung T**. Cellular Resilience. *ALTEX*, 2015, 32:247-260. doi: 10.14573/altex.1509271 **(IF 6.3)**
344. Zhao L and **Hartung T**. Metabonomics and toxicology. *Meth. Mol. Biol.* 2015, 1277:209-231. **(IF 0.4)**

## 2014

345. Alépée N, Bahinski T, Daneshian M, De Wever B, Fritsche E, Goldberg A, Hansmann J, **Hartung T**, Haycock J, Hogberg H, Hoelting L, Kelm JM, Kadereit S, McVey E, Landsiedel R, Leist M, Lübberstedt M, Noor F, Pellevoisin C, Petersohn D, Pfannenbecker U, Reisinger K, Ramirez T, Rothen-Rutishauser B, Schäfer-Korting M, Zeilinger K and Zurich M-G. State-of-the-art of 3D cultures (organs-on-a-chip) in safety testing and pathophysiology – a 4<sup>th</sup> report. *ALTEX* 2014, 31:441-477. doi: 10.14573/altex.1406111 **(IF 6.3)**
346. Andersen M, Betts K, Dragan Y, Fitzpatrick S, Goodman JL, **Hartung T**, Himmelfarb J, Ingber DE, Jacobs A, Kavlock R, Kolaja K, Stevens JL, Tagle D, Taylor DL and Throckmorton D. Developing microphysiological systems for use as regulatory tools - challenges and opportunities. *ALTEX* 2014, 31:364-367. **(IF 6.3)**
347. Andersen M, Betts K, Dragan Y, Fitzpatrick S, Goodman JL, **Hartung T**, Himmelfarb J, Ingber DE, Jacobs A, Kavlock R, Kolaja K, Stevens JL, Tagle D, Taylor DL and Throckmorton D. Developing microphysiological systems for use as regulatory tools - challenges and opportunities

- extended online version. ALTEX 2014. Available at: [http://www.altex.ch/resources/altex\\_2014\\_3\\_Suppl\\_Andersen.pdf](http://www.altex.ch/resources/altex_2014_3_Suppl_Andersen.pdf). (IF 6.3)
348. Bale AS, Kenyon E, Flynn TJ, Lipscomb JC, Mendrick DL, **Hartung T**, and Patton GW. Correlating in vitro data to in vivo findings for risk assessment. ALTEX 2014, 31:79-90 (IF 6.3)
349. Bouhifd M, Hogberg HT, Kleensang A, Maertens A, Zhao L and **Hartung T**. Mapping the Human Toxome by systems toxicology. Basic Clin. Pharmacol. Toxicol. 2014, 115:1-8, Doi: 10.1111/bcpt.12198 (IF 3.7).
350. Busquet F, Palopoli M and **Hartung T**. Regulatory toxicology – progress in law. In: Town W. and Currano JN (Ed) “Science and the Law: Analytical data in support of regulation in health, food, and the environment”, Amer Chem Soc. 2014, Vol. 1147, 51-69.
351. Ferrario D, Brustio R and **Hartung T**. Glossary of reference terms for alternative test methods and their validation. ALTEX 2014, 31:319-335. doi: 10.14573/altex.1403311 (IF 6.3)
352. **Hartung T**. 3D - A new dimension of in vitro research. Advanced Drug Delivery Reviews, Preface Special Issue "Innovative tissue models for in vitro drug development". 2014, 69:vi. (IF 17.8)
353. **Hartung T** and Stephens M. Toxicity Testing in the 21st Century, Approaches to Implementation. In: Wexler P. Encyclopedia of Toxicology, 3<sup>rd</sup> edition, 2014, Elsevier Inc., Academic Press, 673-675.
354. **Hartung T**. The wizard of the 3Rs. ALTEX 2014, 31:547-548. (IF 6.3)
355. **Hartung T**. Toward mechanistic validation. In: Gocht T and Schwarz M. SEURAT-1: The proof-of-concept case studies. 2014, 62-72.
356. Hoffmann S, Stephens M and **Hartung T**. Evidence-based Toxicology. In: Wexler P (Ed). Encyclopedia of Toxicology, 3rd edition vol 2. Elsevier Inc., Academic Press, 2014, 565–567.
357. Hoffmann S, **Hartung T** and Stephens M. Evidence-based toxicology. In: Validating Alternative Methods for Toxicity Testing, 2014, Springer
358. Hogberg HT and **Hartung T**. Regulatory toxicology – progress in science. In: Town W. and Currano JN (Ed) “Science and the Law: Analytical data in support of regulation in health, food, and the environment”, Amer Chem Soc. 2014, Vol. 1147, 95-110.
359. Juberg DR, Borghoff SJ, Becker RA, Casey W, **Hartung T**, Holsapple M, Marty S, Mihaich E, Van Der Kraak G, Wade MG, Willett CE, Andersen M, Borgert C, Coady K, Dix D, Dourson M, Gray E, Lamb J, Ortego L, Schug T, Toole C, Zorrilla L, Kroner O, Patterson J, Rinckel L and Jones B. Lessons Learned, Challenges, and Opportunities: The U.S. Endocrine Disruptor Screening Program. ALTEX 2014, 31:63-78. (IF 6.3)
360. Kleensang A, Maertens A, Rosenberg M, Fitzpatrick S, Lamb J, Auerbach S, Brennan R, Crofton KM, Gordon B, Fornace AJ Jr., Gaido K, Gerhold D, Haw R, Henney A, Ma'ayan A, McBride M, Monti S, Ochs MF, Pandey A, Sharan R, Stierum R, Tugendreich S, Willett C, Wittwehr C, Xia J, Patton GW, Arvidson K, Bouhifd M, Hogberg HT, Luechtefeld T, Smirnova L, Zhao L, Adeleye Y, Kanehisa M, Carmichael P, Andersen E. M, **Hartung T**. Pathways of Toxicity. ALTEX 2014, 31:53-61. doi: 10.14573/altex.1309261 (IF 6.3)
361. Krug AK, Gutbier S, Zhao L, Pörtl D, Kullmann C, Ivanova V, Förster S, Jagtap S, Meiser J, Leparc G, Schildknecht S, Adam M, Hiller K, Farhan H, Brunner T, **Hartung T**, Sachinidis A, and Leist M. Transcriptional and metabolic adaptation of human neurons to the mitochondrial toxicant MPP+. Cell Death Disease, 2014, 5, e1222. doi:10.1038/cddis.2014.166. (IF 9.7)
362. Leist M, Hasiwa N, Rovida C, Daneshian M, Basketter D, Kimber I, Clewell H, Gocht T, Goldberg A, Busquet F, Rossi A-M, Schwarz M, Stephens M, Taalman R, Knudsen TB, McKim J, Harris G, Pamies D and **Hartung T**. Consensus report on the future of animal-free systemic toxicity testing. ALTEX 2014, 31:341–356. (IF 6.3)
363. Maertens A, Anastas N, Spencer PJ, Stephens M, Goldberg A and **Hartung T**. Green Toxicology. ALTEX 2014, 31:243-249. doi: 10.14573/altex.1406181 (IF 6.3)
364. Pamies D, **Hartung T** and Hogberg HT. Biological and medical applications of a brain-on-a-chip. Experimental Biology and Medicine, 2014 Jun 9. pii: 1535370214537738. (IF 4.1)

365. Patlewicz G, Ball N, Becker RA, Blackburn K, Booth E, Cronin M, Kroese D, Steup D, van Ravenzwaay B and **Hartung T**. Read-across approaches - misconceptions, promises and challenges ahead. *ALTEX* 2014, 31:387-396. doi: 10.14573/altex.1410071 **(IF 6.3)**
366. Rivera-Mariani FE, Vysyaraju K, Negherbon J, Levetin E, Horner WE, **Hartung T** and Breyse PN. Comparison of the interleukin-1-inducing potency of allergenic spores from higher fungi (basidiomycetes) in a cryopreserved human whole blood system. *Int. Arch. Allergy Immunol.* 2014, 163:154-62. **(IF 3.8)**
367. Simon TW, Simons SS Jr, Preston RJ, Boobis AR, Cohen SM, Doerrner NG, Fenner-Crisp PA, McMullin TS, McQueen CA, Rowlands JC; **RISK21 Dose-Response Subteam**. The use of mode of action information in risk assessment: quantitative key events/dose-response framework for modeling the dose-response for key events. *Crit Rev Toxicol.* 2014, 44 Suppl 3:17-43. doi: 10.3109/10408444.2014.931925. **(IF 6.2)**
368. Smirnova L, Hogberg HT, Leist M, and **Hartung T**. Developmental neurotoxicity – challenges in the 21st century and in vitro opportunities. *ALTEX* 2014, 31:129-156. doi: 10.14573/altex.1403271. **(IF 6.3)**
369. Tollefsen KE, Scholz S, Cronin MT, Edwards SW, de Knecht J, Crofton K, Garcia-Reyero N, **Hartung T**, Worth A, and Patlewicz G. Applying Adverse Outcome Pathways (AOPs) to support Integrated Approaches to Testing and Assessment (IATA). *Regulatory Toxicology Pharmacology* 2014, 70:629-640. doi: 10.1016/j.yrtph.2014.09.009 **(IF 3.6)**
370. van Vliet E, Daneshian M, Beilmann M, Davies A, Fava E, Fleck R, Julé Y, Kansy M, Kustermann S, Macko P, Mundy W, Roth A, Shah I, Uteng M, van de Water B, **Hartung T** and Leist M. Current approaches and future role of high content imaging in safety sciences and drug discovery. *ALTEX* 2014, 31:479-493. doi: 10.14573/altex.1405271 **(IF 6.3)**
371. Willett C, Caverly Rae J, Goyak KO, Minsavage G, Westmoreland C, Andersen M, Avigan M, Duché D, Harris G, **Hartung T**, Jaeschke H, Kleensang A, Landesmann A, Martos S, Matevia M, Toole C, Rowan A, Schultz T, Seed J, Senior J, Shah I, Subramanian K, Vinken M and Watkins P. Building Shared Experience to Advance Practical Application of Pathway-Based Toxicology: Liver Toxicity Mode-of-Action. *ALTEX* 2014, 31: 500-519. **(IF 6.3)**

## 2013

372. Bouhifd M, **Hartung T**, Hogberg HT, Kleensang A and Zhao L. Review: Toxicometabolomics. *J. Appl. Toxicol.* 2013, 33:1365-1383. DOI 10.1002/jat.2874. **(IF 3.6)**.
373. Daneshian M, Botana LM, Dechraoui Bottein M-Y, Buckland G, Campàs M, Dennison N, Dickey RW, Diogène J, Fessard V, **Hartung T**, Humpage A, Leist M, Molgó J, Quilliam MA, Rovida C, Suarez-Isla BA, Tubaro A, Wagner K, Zoller O, and Dietrich D. A roadmap for hazard monitoring and risk assessment of marine biotoxins on the basis of chemical and biological test systems. *ALTEX* 2013, 30, 487-545. **(IF 6.3)**
374. Davis M, Boekelheide K, Boverhof DR, Eichenbaum G, **Hartung T**, Holsapple MP, Jones TW, Richard A, and Watkins PB. The new revolution in toxicology: The good, the bad, and the ugly. *Annals of the New York Academy of Sciences* 2013, 1278: 11–24. **(IF 6.5)**
375. **Hartung T**. Look Back in anger – what clinical studies tell us about preclinical work. *ALTEX* 2013, 30:275-291. doi: 10.14573/altex.2013.3.275 **(IF 6.3)**
376. **Hartung T**, Luechtefeld T, Maertens A and Kleensang A. Integrated Testing Strategies for Safety Assessments. *ALTEX* 2013, 30:3-18. doi: 10.14573/altex.2013.1.003 **(IF 6.3)**
377. **Hartung T**, Stephens M and Hoffmann S. Mechanistic validation. *ALTEX* 2013, 30:119-130. doi: 10.14573/altex.2013.2.119. **(IF 6.3)**
378. **Hartung T**. From alternative methods to a new regulatory toxicology. *ALTEX Proceedings* 2, 21-35.
379. **Hartung T**, Hasiwa N, Daneshian M, Holtkamp B, Schmitz G and Hossfeld A. Eine wirklich humane Bestimmung von Endotoxinen und Nicht-Endotoxin-Pyrogenen. [A truly human(e) determination of endotoxin and non-endotoxin pyrogens] *PharmInd* 2013, 75:825-834.
380. **Hartung T** and Corsini E. Immunotoxicology: challenges in the 21<sup>st</sup> century and in vitro opportunities. *ALTEX* 2013, 30:411-426. **(IF 6.3)**

381. Hasiwa N, Daneshian M, Bruegger P, Fennrich S, Fleck R, Hochadel A, Hoffmann S, Rivera-Mariani FE, Rockel C, Schindler S, Spreitzer I, Stoppelkamp S, Vysyaraju K and **Hartung T**. Evidence for the detection of non-endotoxin pyrogens by the whole blood monocyte activation test. *ALTEX* 2013, 30:169-208. (IF 6.3)
382. Hogberg HT, Bressler J, Christian KM, Harris G, Makri G, O'Driscoll C, Pamies D, Smirnova L, Wen Z and **Hartung T**. Toward a 3D model of human brain development for studying gene/environment interactions. *Stem Cell Research & Therapy* 2013, 4(Suppl 1):S4:1-7. Doi: 10.1186/s13287-013-0365-5 (IF 8.1)
383. Judson R, Kavlock R, Martin M, Reif D, Houck K, Knudsen T, Richard A, Tice R, Whelan M, Xia M, Huang R, Austin C, Daston G, **Hartung T**, Fowle JR III, Wooge W, Tong W and Dix D. Perspectives on Validation of High-Throughput Pathway-Based Assays Supporting the 21st Century Toxicity Testing Vision *ALTEX* 2013, 30:51-66. doi: 10.14573/altex.2013.1.051 (IF 6.3)
384. Leist M and **Hartung T**. Inflammatory findings on species extrapolations: humans are definitely no 70-kg mice. *Arch. Toxicol.* 2013, 87:563–567. doi:10.1007/s00204-013-1038-0. (IF 6.2)
385. Leist M and **Hartung T**. Reprint: Inflammatory findings on species extrapolations: humans are definitely no 70-kg mice. *ALTEX* 2013, 30:227-230. (IF 6.3)
386. Ramirez T, Daneshian M, Kamp H, Bois FY, Clench MR, Coen M, Donley B, Fischer SM, Ekman DR, Fabian E, Guillou C, Heuer J, Hogberg HT, Jungnickel H, Keun HC, Krennrich G, Krupp E, Luch A, Noor F, Peter E, Riefke B, Seymour M, Skinner N, Smirnova L, Verheij E, Wagner S, **Hartung T**, van Ravenzwaay B and Leist M. Metabolomics in toxicology and preclinical research. *ALTEX* 2013, 30:209-225. doi: 10.14573/altex.2013.2.209 (IF 6.3)
387. Saldutti LP, Beyer BK, Breslin W, Brown TR, Chapin RE, Campion S, Enright B, Faustman E, Foster PMD, **Hartung T**, Kelce W, Kim JH, Lobo EG, Piersma AH, Seyler D, Turner KJ, Yu H, Yu X and Sasaki JC. In Vitro Testicular Toxicity Models: Opportunities for Advancement via Biomedical Engineering Techniques. *ALTEX* 2013, 30:353-377. (IF 6.3)
388. Scholz S, Sela E, Blaha L, Braunbeck T, Galay-Burgos M, García-Franco M, Guinea J, Klüver N, Schirmer K, Tanneberger K, Tobor-Kaplon M, Witters H, Belanger S, Benfenati E, Creton S, Cronin MTD, Eggen RIL, Embry M, Ekman D, Gourmelon A, Halder M, Hardy B, **Hartung T**, Hubesch B, Jungmann D, Lampi MA, Lee LL, Léonard M, Küster E, Lillicrap A, Luckenbach T, Murk AJ, Navas JM, Peijnenburg W, Repetto G, Salinas E, Schüürmann G, Spielmann H, Tollefsen KE, Walter-Rohde S, Whale G, Wheeler JR and Winter MJ. A European perspective on alternatives to animal testing for environmental hazard identification and risk assessment. *Regulat. Toxicol. Pharmacol.* 2013, 67:506-530. doi: 10.1016/j.yrtph.2013.10.003. (IF 3.6)
389. Stephens ML, Andersen M, Becker RA, Betts K, Boekelheide K, Carney E, Chapin R, Devlin D, Fitzpatrick S, Fowle JR, Harlow P, **Hartung T**, Hoffmann S, Holsapple M, Jacobs A, Judson R, Naidenko O, Pastoor T, Patlewicz G, Rowan A, Scherer R, Shaikh R, Simon T, Wolf D and Zurlo J. Evidence-based Toxicology for the 21<sup>st</sup> Century: Opportunities and Challenges. *ALTEX* 2013, 30:74-104. (IF 6.3)
390. van Vliet E, Eixarch E, Illa M, Arbat-Plana A, González-Tendero A, Hogberg HT, Zhao L, **Hartung T** and Gratacos E. Metabolomics reveals metabolic alterations by intrauterine growth restriction in the fetal rabbit. *Therap. PLoS ONE* 2013, 8: e64545. Doi: 10.1371/journal.pone.0064545 (IF 3.7)

## 2012

391. Basketter DA, Clewell H, Kimber I, Rossi A, Blaauboer B, Burrier R, Daneshian M, Eskes C, Goldberg A, Hasiwa N, Hoffmann S, Jaworska J, Knudsen TB, Landsiedel R, Leist M, Locke P, Maxwell G, McKim J, McVey EA, Ouédraogo G, Patlewicz G, Pelkonen O, Roggen E, Rovida C, Ruhdel I, Schwarz M, Schepky A, Schoeters G, Skinner N, Trentz K, Turner M, Vanparys P, Yager J, Zurlo J and **Hartung T**. A roadmap for the development of alternative (non-animal) methods for systemic toxicity testing. *ALTEX* 2012, 29:3-89. doi: 10.14573/altex.2012.1.003 (IF 6.3)
392. Ferrario D and Rabbit RR [Hartung T]. Analysis of the proposed EU regulation concerning biocide products and its opportunities for alternative approaches and a toxicology for the 21st century (t4 report). *ALTEX* 2012, 29: 157–172. (IF 6.3)

393. **Hartung T**, van Vliet E, Jaworska J, Bonilla L, Skinner N and Thomas R. Systems toxicology. ALTEX 2012, 29: 119-128. doi: 10.14573/altex.2012.2.119 (IF 6.3)
394. **Hartung T**, and Zurlo J. Alternative approaches for medical countermeasures to biological and chemical terrorism and warfare. ALTEX 2012, 29: 251–260. doi: 10.14573/altex.2012.3.251 (IF 6.3)
395. **Hartung T**. 21<sup>st</sup> century toxicology – 88 years left? Chemistry World June 2012, 39. (IF 0.1)
396. Leist M, Hasiwa M, Daneshian M and **Hartung T**. Validation and quality control of replacement alternatives – current status and future challenges. Toxicological Research 2012, 1:8, DOI: 10.1039/C2TX20011B. (IF 3.0)
397. Rockel C and **Hartung T**. Systematic review of membrane components of Gram-positive bacteria responsible as pyrogens for inducing human monocyte / macrophage cytokine release. Frontiers in Pharmacology, 2012, 3. DOI=10.3389/fphar.2012.00056. (IF 6.0)
398. Rossini GP and **Hartung T**. Towards tailored assays for cell-based approaches to toxicity testing. ALTEX 2012, 29:359-372. (IF 6.3)

## 2011

399. Daneshian M, Akbarsha MA, Blaauboer B, Caloni F, Cosson P, Curren R, Goldberg A, Gruber F, Ohl F, Pfaller W, van der Valk J, Vinardell P, Zurlo J, **Hartung T** and Leist M. A framework program for the teaching of alternative methods (replacement, reduction, refinement) to animal experimentation. ALTEX 2011, 28:341-352. (IF 6.3)
400. Dehus O, Pfitzenmaier M, Stuebs G, Fischer N, Schwaeble W, Morath S, **Hartung T**, Geyer A and Hermann C. Growth temperature-dependent expression of structural variants of *Listeria monocytogenes* lipoteichoic acid. Immunobiol. 2011, 216:24-31. (IF 3.2)
401. Hasiwa N, Bailey J, Clausing P, Daneshian M, Eileraas M, Farkas S, Gyertyán I, Hubrecht R, Kobel W, Krummenacher G, Leist L, Lohi H, Miklósi A, Ohl F, Olejniczak K, Schmitt G, Sinnott-Smith P, Smith D, Wagner K, Yager JD, Zurlo J and **Hartung T**. Critical evaluation of the use of dogs in biomedical research and testing in Europe. ALTEX 2011, 28:326-340. (IF 6.3)
402. **Hartung T**, Blaauboer GJ, Bosgra S, Carney E, Coenen J, Conolly RB, Corsini E, Green S, Faustman EM, Gaspari A, Hayashi M, Hayes AW, Hengstler JG, Knudsen LE, Knudsen TB, McKim JM, Pfaller W and Roggen EL. An expert consortium review of the EC-commissioned report “Alternative (Non-Animal) Methods for Cosmetics Testing: Current Status and Future Prospects – 2010”. ALTEX 2011, 28, 183-209. (IF 6.3)
403. **Hartung T**. From alternative methods to a new toxicology. Eur. J. Pharmaceutics Biopharmaceutics, 2011, 77:338–349. (IF 5.6)
404. **Hartung T** and McBride M. Food for thought... on mapping the human toxome. ALTEX 2011, 28, 83-93. doi: 10.14573/altex.2011.2.083 (IF 6.3)
405. **Hartung T** and Sabbioni E. Alternative in vitro assays in nanomaterial toxicology. WIREs Nanomed. Nanobiotechnol. 2011, 3:545-573. DOI: 10.1002/wnan.153 (IF 9.4)
406. National Research Council [Korch GW, Niemi SM, Bergman NH, Carucci DJ, Ehrlich SA, Kwik Cronwall G, **Hartung T**, Heitman E, Kotb M, Kuhn JH, Lyons CR, Morse SS, Murphy FA, Patel VS, Sweaengen JR, Anestidou L, Sharple F, Anderson C-G, Crossgrove R, Hook-Barnard I, Karalic-Loncarevic M and Rose R.]. Animal models for assessing countermeasures to bioterrorism agents. 2011. Washington, DC: The National Academies Press. <https://doi.org/10.17226/13233>.
407. Rockel C, **Hartung T** and Hermann C. Different *S. aureus* whole bacteria mutated in putative pro-inflammatory membrane components have similar cytokine-inducing activity, Immunobiol. 2011, 216:316-321. (IF 3.2)
408. Rovida C, Longo F, and **Rabbit RR** [Hartung T]. How are reproductive toxicity and developmental toxicity addressed in REACH dossiers? ALTEX 2011, 28:273-294. doi: 10.14573/altex.2011.4.273. (IF 6.3)
409. Silbergeld EK, Contreras EQ, **Hartung T**, Hirsch C, Hogberg H, Jachak AC, Jordan W, Landsiedel R, Morris J, Patri A, Pounds JG, de Vizcaya Ruiz A, Shvedova A, Tanguay R,

Tatarazako N, van Vliet E, Walker NJ, Wiesner M, Wilcox N and Zurlo J. Nanotoxicology: “the end of the beginning” – Signs on the roadmap to a strategy for assuring the safe application and use of nanomaterials. ALTEX 2011, 28, 236-241. **(IF 6.3)**

## 2010

410. Bal-Price AK, Hogberg HT, Buzanska L, Lenas P, van Vliet E and **Hartung T**. In vitro developmental neurotoxicity (DNT) testing: Relevant models and endpoints. Neurotox. 2010, 31:545-554. **(IF 4.0)**
411. Basketter DA, Kimber I and **Hartung T**. The evolution of validation: a commentary. Cutaneous Ocular Toxicol. 2010, 29:1-3. **(IF 2.0)**
412. Bottini AA and **Hartung T**. The economics of animal testing. ALTEX Special Issue 2010, 27:67-77. **(IF 6.3)**
413. Bunk S, Sigel S, Metzdorf D, Sharif O, Triantafilou K, Triantafilou M, **Hartung T**, Knapp S and von Aulock S. Internalization and co-receptor expression are critical for TLR2-mediated recognition of lipoteichoic acid in human peripheral blood. J. Immunol. 2010, 185:3708-3717. **(IF 5.4)**
414. Daneshian M, Leist M, **Hartung T**. Center for alternatives to animal testing – Europe (CAAT-EU): a transatlantic bridge for the paradigm shift in toxicology. ALTEX 2010, 27:63-69. **(IF 6.3)**
415. Daneshian M, Leist M, **Hartung T**. Das Center for Alternatives to Animal Testing – Europe (CAAT-EU): eine transatlantische Brücke für den Paradigmenwechsel in der Toxikologie. ALTEXethik 2010, 2, 90. **(IF 6.3)**
416. Di Mauro C, Bouchon S, Logtmeijer C, Nordvik JP, Pride R and **Hartung T**. Structured approach to identifying European critical infrastructures. Int. J. Critical Infrastructures, 2010, 6:277-292. **(IF 1.1)**
417. Forti E, Bulgheroni A, Cetin Y, **Hartung T**, Jennings P, Pfaller W and Prieto P. Characterisation of cadmium chloride induced molecular and functional alterations in bronchial epithelial cells. Cell. Physiol. Biochem. 2010, 25:159-168. **(IF 1.1)**
418. **Hartung T**. Comparative analysis of the revised Directive 2010/63/EU for the protection of laboratory animals with its predecessor 86/609/EEC – a 1<sup>st</sup> report. ALTEX 2010, 27:285-303. doi: 10.14573/altex.2010.4.285. **(IF 6.3)**
419. **Hartung T**. Evidence based-toxicology – the toolbox of validation for the 21st century? ALTEX 2010, 27:241-251. Doi: 10.14573/altex.2010.4.253 **(IF 6.3)**
420. **Hartung T**. Lessons learned from alternative methods and their validation for a new toxicology in the 21st century. J. Toxicol. Env. Health 2010, 13:277-290. **(IF 3.2)**
421. **Hartung T**. Food for thought... on alternative methods for chemical safety testing. ALTEX 2010, 27, 3-14. **(IF 6.3)**
422. **Hartung T**. Food for thought... on alternative methods for nanoparticle safety testing. ALTEX 2010, 27:87-95. **(IF 6.3)**
423. **Hartung T**, Bruner L, Curren R, Eskes C, Goldberg A, McNamee P, Scott L and Zuang V. First alternative method validated by a retrospective weight-of-evidence approach to replace the Draize eye test for the identification of non-irritant substances for a defined applicability domain. ALTEX 2010, 27, 43-51. **(IF 6.3)**
424. **Hartung T** and Koeter H. Congress Chairmen’s Preface. ALTEX Special Issue 2010, 1-2. **(IF 6.3)**
425. **Hartung T**. Vor- und Nachdenkliches... zu Alternativmethoden für die Sicherheitsprüfung von Chemikalien. ALTEXethik 2010, 2, 87. **(IF 6.3)**
426. **Hartung T**, Bruner L, Curren R, Eskes C, Goldberg A, McNamee P, Scott L and Zuang V. Erste Alternativmethode zum Ersatz des Draize Augentests zur Identifizierung nicht-irritativer Substanzen für eine definierte Applikationsdomäne durch einen retrospektiven weight-of-evidence-Ansatz validiert. ALTEXethik 2010, 2, 89. **(IF 6.3)**

427. **Hartung**, T. Vor- und Nachdenkliches... zu Alternativmethoden für die Sicherheitsprüfung von Nanopartikeln. ALTEXethik 2010, 2, 91. **(IF 6.3)**
428. **Hartung** T. Evidenz-basierte Toxikologie – die richtige Methodensammlung für Validierung im 21. Jahrhundert? ALTEXethik 2010, 2, 102. **(IF 6.3)**
429. **Hartung** T. Vergleichende Analyse der überarbeiteten Richtlinie 2010/63/EU für den Schutz von Labortieren mit der abgelösten Richtlinie 86/609/EEC – ein t<sup>4</sup> Bericht. ALTEXethik 2010, 2, 103. **(IF 6.3)**
430. Hogberg HT, Kinsner-Ovaskainen A, Coecke S, **Hartung** T and Bal-Price AK. mRNA expression is a relevant tool to identify developmental neurotoxicants using an in vitro approach. *Tox. Sci.* 2010, 113:95-115. **(IF 4.1)**
431. Holtkamp B, Schmitz G and **Hartung** T. In vitro-Pyrogentest - Nachweis eines breiten Pyrogenspektrums im Monozyten-Aktivierungstest. *Biospektrum* 2010, 16:779-781. **(IF 0.1)**
432. Presgrave O, Eskes C, Presgrave R, Alves E, Freitas JC, Caldeira C, Gimines I, Silva R, Nogueira S, Nunes J, Rivera E, Sá-Rocha V, Coecke S and **Hartung** T. A Proposal to Establish a Brazilian Center for Validation of Alternative Methods (BraCVAM). ALTEX Special Issue 2010, 27:159-161. **(IF 6.3)**

## 2009

433. Bottini AA and **Hartung** T. Food for thought... on economics of animal testing. ALTEX 2009, 26:3-16. doi: 10.14573/altex.2009.1.3 **(IF 6.3)**
434. Bottini AA and **Hartung** T. Vor- und Nachdenkliches... zu ökonomischen Aspekten von Tierversuchen. ALTEX ethik 2009, 1:94-99. **(IF 6.3)**
435. Bulgheroni A, Kinsner-Ovaskainen A, Hoffmann S, **Hartung** T and Prieto P. Estimation of acute oral toxicity using no adverse effect level (NOAEL) from the 28-day repeated dose toxicity studies in rats. *Reg. Tox. Pharmacol.* 2009, 53:16-19. **(IF 3.6)**
436. Corvi R and Hartung T. Alternative in vitro methods for carcinogenicity and mutagenicity. *Exp. Toxicol. Pathol.* 2009, 61:255. **(IF 1.9)**
437. Daneshian M, von Aulock S and **Hartung** T. Assessment of pyrogenic contaminations with the validated human whole blood assay. *Nature Protocols* 2009, 12:1709-1721. **(IF 17.0)**
438. Eskes C, de Moura Sa-Rocha V, Nunes J, Presgrave O, de Carvalho D, Masson P, Rivera E, Coecke S, Kreysa J and **Hartung** T. Proposal for a Brazilian centre on alternative test methods. ALTEX 2009, 26:265-268. **(IF 6.3)**
439. Ferrario D, Collotta A, Carfi M, Bowe G, Vahter M, **Hartung** T and Gribaldo L. Arsenic induces telomerase expression and maintains telomere length in human cord blood cells. *Toxicology* 2009, 260:132-141. **(IF 4.6)**
440. Griesinger C, Hoffmann S, Kinsner-Ovaskainen A, Coecke S and **Hartung** T. Proceedings of the First International Forum Towards Evidence-Based Toxicology. Conference Centre Spazio Villa Erba, Como, Italy. 15–18 October 2007. Preface. *Human Exp. Toxicol.* 2008, Special Issue: Evidence-Based Toxicology (EBT) 2009, 28:83-86. **(IF 3.3)**
441. Griesinger C, Hoffmann S, Kinsner A, Coecke S and **Hartung** T. Current schemes for decision-making in toxicology. *Human Exp. Toxicol.* 2009, 28:147. **(IF 3.3)**
442. Griesinger C, Hoffmann S, Kinsner A, Coecke S and **Hartung** T. Current information sources for hazard identification. *Human Exp. Toxicol.* 2009, 28:149. **(IF 3.3)**
443. Griesinger C, Hoffmann S, Kinsner A, Coecke S and **Hartung** T. Evidence-based tools in toxicological basic research. *Human Exp. Toxicol.* 2009, 28:151-152. **(IF 3.3)**
444. Griesinger C, Hoffmann S, Kinsner A, Coecke S and **Hartung** T. Evidence-based tools in toxicological hazard identification. *Human Exp. Toxicol.* 2009, 28:153. **(IF 3.3)**
445. Griesinger C, Hoffmann S, Kinsner A, Coecke S and **Hartung** T. Evidence-based tools in toxicological decision-making. *Human Exp. Toxicol.* 2009, 28:155. **(IF 3.3)**
446. Griesinger C, Hoffmann S, Kinsner A, Coecke S and **Hartung** T. Possible improvement of information sources on hazard and risk. *Human Exp. Toxicol.* 2009, 28:157. **(IF 3.3)**

447. **Hartung** T, Blaauboer B and Leist M. Food for thought... on education in alternative methods in toxicology. ALTEX 2009, 26:255-263. (IF 6.3)
448. **Hartung** T and Rovida C. Chemical regulators have overreached. Nature 2009, 460:1080-1081. doi: 10.1038/4601080a (IF 69.5)
449. **Hartung** T. Toxicology for the twenty-first century. Nature 2009, 460:208-212. doi:10.1038/460208a (IF 69.5)
450. **Hartung** T. Fundamentals of an evidence-based toxicology Human Exp. Toxicol. 2009, 28:93-94. (IF 3.3)
451. **Hartung** T. A toxicology for the 21<sup>st</sup> century: Mapping the road ahead. Tox. Sci. 2009, 109:18-23. (IF 4.1)
452. **Hartung** T. Food for thought... on evidence-based toxicology. ALTEX 2009, 26:75-82. doi: 10.14573/altex.2009.2.75. (IF 6.3)
453. **Hartung** T. Per aspirin ad astra... ATLA - Altern Lab Anim 2009, 37, Suppl 2:45-47. (IF 1.3)
454. **Hartung** T and Daston G. Are in vitro tests suitable for regulatory use? Tox. Sci. 2009, 111:233-237. (IF 4.1)
455. **Hartung** T and Hoffmann S. Food for thought on... in silico methods in toxicology. ALTEX 2009, 26:155-166. doi:10.14573/altex.2009.3.155 (IF 6.3)
456. **Hartung** T. Vor- und Nachdenkliches... zu Evidenz-basierten Toxikologie. ALTEXethik 2009, 1:102-106. (IF 4.1)
457. **Hartung** T and Hoffmann S. Vor- und Nachdenkliches... zu in silico Methoden in der Toxikologie. ALTEXethik 2009, 1:108-109. (IF 6.3)
458. **Hartung** T, Blaauboer B and Leist M. Vor- und Nachdenkliches... zur Lehre von Alternativmethoden in der Toxikologie. ALTEXethik 2009, 1:117-120. (IF 6.3)
459. **Hartung** T and Rovida C. That which must not, cannot be... a reply to the EChA and EDF responses to the REACH analysis of animal use and costs. ALTEX 2009, 26:307-311. doi: 10.14573/altex.2009.4.307. (IF 4.1)
460. Hogberg H, Kinsner A, **Hartung** T, Coecke S and Bal-Price A. Gene expression as a sensitive endpoint to evaluate cell differentiation and maturation of the developing central nervous system in primary cultures of rat cerebellar granule cells (CGCs) exposed to pesticides. Toxicol. Appl. Pharmacol. 2009, 235:268-286. (IF 4.5)
461. Kinsner-Ovaskainen A; Griesinger C, Hoffmann A, Coecke S, Bowe G, Campana C and **Hartung** T. An online portal to evidence-based toxicology. Human Exp. Toxicol. 2009, 28:161-162. (IF 3.3)
462. Kinsner-Ovaskainen A, Bulgheroni A, **Hartung** T and Prieto P. ECVAM's ongoing activities in the area of acute oral toxicity. Toxicol. In Vitro 2009, 23:1535-1540. (IF 3.7)
463. Moore N, Bremer S, Carmichael N, Daston G, Dent M, Gaoua-Chapelle W, Hallmark N, **Hartung** T, Holzum B, Hübel U, Meisters M-L, Schneider S, van Ravenzwaay B and Hennes C. A modular approach to the extended one-generation reproduction toxicity study: Outcome of an ECETOC task force and International ECETOC/ECVAM workshop. ATLA – Altern. Lab. Anim. 2009, 37:219-225. (IF 1.3)
464. Rahman O, Pfitzenmaier M, Pester O, Morath S, Cummings SP, **Hartung** T and Sutcliffe IC. Macroamphiphilic components of thermophilic actinomycetes: identification of lipoteichoic acid in Thermobifida fusca. J. Bacteriol. 2008, 191:152-160. (IF 3.2)
465. Rovida C. and **Hartung** T. Re-evaluation of animal numbers and costs for in vivo tests to accomplish REACH legislation requirements. ALTEX 2009, 26:187-208. (IF 6.3)
466. Rovida C. and **Hartung** T. Neuevaluierung der erforderlichen Tierzahlen und Kosten der in vivo Tests zur Erfüllung der REACH Vorgaben für Chemikalien – ein Bericht des "transatlantic think tank for toxicology (t<sup>4</sup>)". ALTEXethik 2009, 1:115. (IF 6.3)
467. Schindler S, von Aulock S, Daneshian M and **Hartung** T. Development, validation and applications of the monocyte activation test for pyrogens based on human whole blood. ALTEX 2009, 26:293-305. (IF 6.3)

468. Schindler S, von Aulock S, Daneshian M and **Hartung** T. Entwicklung, Validierung und Anwendungsbereiche des Monozyten Aktivierungstests für Pyrogene auf der Basis menschlichen Vollbluts. *ALTEXethik* 2009, 1:122. (IF 6.3)
469. Schneider K, Schwarz M, Burkholder I, Kopp-Schneider A, Edler L, Kinsner-Ovaskainen A, **Hartung** T and Hoffmann S. "ToxRTool", a new tool to assess the reliability of toxicological data. *Toxicol. Lett.* 2009, 189:138-144. doi: 10.1016/j.toxlet.2009.05.013 (IF 4.4)
470. Schwarz M, Bremer S, Dencker L, Garthoff B, **Hartung** T, Lazzari G, Mantovani A, Pellizzer C and Spielmann H. ReProTect: Hazard assessment of reproductive toxicity. *Toxicol. Lett.* 2009, 189, Suppl. 1:S37. (IF 4.4)
471. Scott L, Eskes C, Hoffmann S, Adriaens E, Alepée N, Bufo M, Clothier R, Facchini D, Faller C, Guest R, Harbell J, **Hartung** T, Kamp H, Le Varlet B; Meloni M, McNamee P, Osborne R, Pape W, Pfannenbecker U, Prinsen M, Seaman C, Spielmann H, Stokes W, Trouba K, Van den Berghe C, van Goethem F, Vassallo M, Vinardell P and Zuang V. A proposed eye irritation testing strategy to reduce and replace in vivo studies using bottom-up and top-down approaches. *Toxicol. In Vitro* 2009, 24:1-9. (IF 3.7)

## 2008

472. Adler S, Pellizzer C, Hareng L, **Hartung** T and Bremer S. First steps in establishing a developmental toxicity test method based on human embryonic stem cells. *Toxicol. In Vitro* 2008, 22:200-211. (IF 3.7)
473. Ahr H-J, Alepee N, Breier S, Brekelmans C, Cotgreave I, Gribaldo L, Dal negro G, De Silva O, **Hartung** T, Lacerda A, Leblanc B, Lecerf C, Linge JP, Luhimies S, Manou I, Maxwell G, Müller KK, Pape W, Redhead K, Schröder KR, Sladowski D, van der Jagt K and Vanparys P. Barriers to validation. A report by European Partnership for Alternative Approaches to animal testing (EPAA) working group 5. *ATLA – Altern. Lab. Anim.* 2008, 36:459-464. (IF 1.3)
474. Bottini AA, Alepee N, De Silva O, **Hartung** T, Hendriksen C, Kuil J, Pazos P, Philips B, Rhein C, Schiffelers M-J, Stokes W, Theobald A, Vidal J-M, Van de Sandt H and Blaauboer B. Optimization of the post-validation process. The report and recommendations of ECVAM workshop 67. *ATLA – Altern. Lab. Anim.* 2008, 36:353-366. (IF 1.3)
475. Bucki R, Byfield FJ, Kulakowska A, McCormick ME, Drozdowski W, Namiot Z, **Hartung** T and Janmey PA. Extracellular gelsolin binds lipoteichoic acid and modulates cellular response to proinflammatory bacterial wall components. *J. Immunol.* 2008, 181:4936-4944. (IF 5.4)
476. Cohen BC, Crofton KM, **Hartung** T, Krewski D, Locke PA and Stephens ML. Toxicity testing in the 21st century: Better results, less use of animals. *Environmental Forum* 2008, March-April, 46-51.
477. Corvi R, Albertini S, **Hartung** T, Hoffmann S, Maurici D, Pfuher S, van Benthem J, and Vanparys P. ECVAM retrospective validation of in vitro micronucleus test (MNT). *Mutagenesis* 2008, 23:271-283. (IF 3.0)
478. Daneshian M, Wendel A, **Hartung** T and von Aulock S. High sensitivity pyrogen testing in water and dialysis solutions. *J. Immunol. Meth.* 2008, 336:64-70. (IF 3.2)
479. Draing C, Sigel S, Deininger S, Traub S, Munke R, Mayer C, Hareng L, **Hartung** T, von Aulock S and Hermann C. Cytokine induction by Gram-positive bacteria. *Immunobiol.* 2008, 213:285-296. (IF 3.2)
480. Draing C, Traub S, Deininger S, Mang P, Moller HM, Manso M, Rossi F, Morath S, **Hartung** T and von Aulock S. Polypropylene glycol is a selective binding inhibitor for LTA and other structurally related TLR2 agonists. *Eur. J. Immunol.* 2008, 38:797-808. (IF 6.7)
481. Deininger S, Traub S, Aichele D, Rupp T, Baris T, Moller HM, **Hartung** T and von Aulock S. Presentation of lipoteichoic acid potentiates its inflammatory activity. *Immunobiol.* 2008, 213:519-29. (IF 3.2)
482. Di Gioacchino M, Petrarca C, Perrone A, Farina M, Sabbioni E, **Hartung** T, Martino S, Esposito DL, Lotti LV and Mariani-Costantini R. Autophagy as an ultrastructural marker of heavy metal toxicity in human cord blood hematopoietic stem cells. *Sci. Total Environ.* 2008, 392:50-58. (IF 10.8)

483. Goldberg A and **Hartung T**. The emerging new toxicology – an opportunity for contract research. *Eur. Pharmaceut. Contractor* 2008, 42-46.
484. Halder M and **Hartung T**. European Centre for the Validation of Alternative Methods (ECVAM): its role and contribution. In: EDQM/Council of Europe: Alternatives to animal testing: new approaches in the development and control of biologicals, 2008, 23-32.
485. **Hartung T**. Towards a new toxicology – evolution or revolution? *ATLA – Altern. Lab. Anim.* 2008, 36:635-639. doi: 10.1177/026119290803600607 **(IF 1.3)**
486. **Hartung T**. Thoughts on limitations of animal models. *Parkinsonism & Related Disord.* 2008, 14:S81-83. **(IF 4.4)**
487. **Hartung T**. Food for thought ... on animal tests. *ALTEX* 2008, 25:3-9. **(IF 6.3)**
488. **Hartung T**. Vor und Nachdenkliches... zu Tierversuchen. *ALTEX* 2008, 25:10-16. **(IF 6.3)**
489. **Hartung T**. Food for thought ... on alternative methods for cosmetics safety testing. *ALTEX* 2008, 25:147-162. **(IF 6.3)**
490. **Hartung T**. Vor und Nachdenkliches... zu Alternativen für die Sicherheitsprüfung von Kosmetika. *ALTEX* 2008, 25:163-179. **(IF 6.3)**
491. **Hartung T** and Leist M. Food for thought ... on the evolution of toxicology and phasing out of animal testing. *ALTEX* 2008, 25:91-96. doi: 10.14573/altex.2008.2.91 **(IF 6.3)**
492. **Hartung T** and Leist M. Vor und Nachdenkliches... zur Evolution der Toxikologie und dem Auslauf von Tierversuchen. *ALTEX* 2008, 25:97-102. **(IF 6.3)**
493. **Hartung T** and Koeter H. Food for thought ... on alternative methods for food safety testing. *ALTEX* 2008, 25:259-264. **(IF 6.3)**
494. **Hartung T** and Koeter H. Vor- und Nachdenkliches ... zur Sicherheitsprüfung von Nahrungsmitteln. *ALTEX* 2008, 25:265. **(IF 6.3)**
495. Hasiwa M, Kylián O, **Hartung T** and Rossi F. Removal of Immune-stimulatory Components from Surfaces by Plasma Discharges, *Innate Immunity*, 2008, 14: 89-97. **(IF 7.1)**
496. Hoffmann S, Edler L, Gardner I, Gribaldo L, **Hartung T**, Klein C, Liebsch M, Sauerland S, Schechtman L, Stamatii A and Nikolaidis E. Points of reference in validation - the report and recommendations of ECVAM Workshop. *ATLA – Altern. Lab. Anim.* 2008, 36:343-352. doi: 10.1177/026119290803600311 **(IF 1.3)**
497. Jacobs M, Bremer S, **Hartung T**, Pazos P and Pellizzer C. ECVAM activities in the validation of alternatives for endocrine disruptor testing. *Toxicol. Lett.* 2008, 180, Suppl.1:106. **(IF 4.4)**
498. Kramer NE, Hasper HE, van den Bogaard PT, Morath S, de Kruijff B, **Hartung T**, Smid EJ, Breukink E, Kok J and Kuipers OP. Increased D-alanylation of lipoteichoic acid and a thickened septum are main determinants in the nisin resistance mechanism of *Lactococcus lactis*. *Microbiol.* 2008, 154:1755-1762. **(IF 2.8)**
499. Leist M, **Hartung T** and Nicotera P. The dawning of a new age of toxicology. *ALTEX* 2008, 25:103-114. Doi: 10.14573/altex.2008.2.103 **(IF 6.3)**
500. Mattsson E, Heying R, van de Gevel JS, **Hartung T** and Beekhuizen H. Staphylococcal peptidoglycan initiates an inflammatory response and procoagulant activity in human vascular endothelial cells. A comparison with highly purified lipoteichoic acid and TSST-1. *FEMS Immunol. Med. Microbiol.* 2008, 52:110-117. **(IF 4.2)**
501. Nilsen NJ, Deininger S, Nonstad U, Skjeldal F, Husebye H, Rodionov D, von Aulock S, **Hartung T**, Lien E, Bakke O and Espevik T. Cellular trafficking of lipoteichoic acids and toll-like receptor 2 in relation to signaling; role of CD14 and CD36. *J. Leukoc. Biol.* 2008, 84:280-291. **(IF 6.0)**
502. van Vliet E, Morath S, Linge J, Rappsilber J, Eskes C, Honegger P, **Hartung T** and Coecke S. A novel in vitro metabolomics approach for neurotoxicity testing, proof of principle for methyl mercury chloride and caffeine. *Neurotox.* 2008, 29:1-12. doi: 10.1016/j.neuro.2007.09.007. **(IF 4.0)**
503. Zuang V, Eskes C, Griesinger C and **Hartung T**. ECVAM key area topical toxicity: update on activities. *AATEX* 2008, 14:S523-S528. **(IF 1.9)**

## 2007

504. Bauhofer A, Plaul U, Torossian A, Koller M, Stinner B, Celik I, Sitter H, Greger B, Middeke M, Schein M, Wyatt J, Nyström P-O, **Hartung** T, Rothmund M and Lorenz W. Perioperative prophylaxis with granulocyte colony-stimulating factor (G-CSF) in high-risk colorectal cancer patients for an improved recovery: a randomized, controlled trial. *Surgery* 2007, 141:501-510. **(IF 3.8)**
505. Basketter D, Pease C, Kasting G, Kimber I, Casati S, Cronin M, Diembeck W, Gerberick F, Hadgraft J, **Hartung** T, Marty JP, Nikolaidis E, Patlewicz G, Roberts D, Roggen E, Rovida C and van de Sandt J. Skin sensitisation and epidermal disposition: The relevance of epidermal disposition for sensitisation hazard identification and risk assessment. The report and recommendations of ECVAM workshop 59. *ATLA – Altern. Lab. Anim.* 2007, 35: 137-154. **(IF 1.3)**
506. Borlon C, Godard P, Eskes C, **Hartung** T, Zuang V and Toussaint O. The usefulness of toxicogenomics for predicting acute skin irritation on in vitro reconstructed human epidermis. *Toxicol.* 2007, 241:157-166. **(IF 4.6)**
507. Bottini AA, Amcoff P and **Hartung** T. Vor- und Nachdenkliches... zur Globalisierung von Alternativmethoden. *ALTEX* 2007, 24:262-269. **(IF 6.3)**
508. Bottini AA, Amcoff P and **Hartung** T. Food for thought... on globalization of alternative methods. *ALTEX* 2007, 24:255-261. **(IF 6.3)**
509. Bouvier d'Yvoire M, Prieto P, Blaauboer BJ, Bois FY, Boobis A, Brochot C, Coecke S, Freidig A, Gundert-Remy U, **Hartung** T, Jacobs MN, Lavé T, Leahy DE, Lennernäs H, Loizou GD, Meek B, Pease C, Rowland M, Spendiff M, Yang J and Zeilmaker M. Physiologically-based Kinetic Modelling (PBK Modelling): Meeting the 3Rs Agenda. The Report and Recommendations of ECVAM Workshop 63. *ATLA - Altern. Lab. Anim.* 2007, 35: 661-671. **(IF 1.3)**
510. Bremer S, Pellizzer C, Hoffmann S, Seidle T and **Hartung** T. The development of new concepts for assessing reproductive toxicity applicable to large scale toxicological programs. *Curr. Pharm. Des.* 2007, 13:3047-3058. **(IF 3.3)**
511. Carfi M, Gennari A, Malerba I, Corsini E, Pallardy M, Pieters M, Van Loveren H, Vohr HW, **Hartung** T and Gribaldo L. In vitro tests to evaluate immunotoxicity: a preliminary study. *Toxicology* 2007, 229:11-22. **(IF 4.6)**
512. Coecke S, Goldberg AM, Allen S, Buzanska L, Calamandrei G, Crofton K, Hareng L, **Hartung** T, Knaut H, Honegger P, Jacobs M, Lein P, Li A, Mundy W, Owen D, Schneider S, Silbergeld E, Reum T, Trnovec T, Monnet-Tschudi F and Bal-Price A. Incorporating in vitro alternative methods for developmental neurotoxicity into international hazard and risk assessment strategies. *Environ. Health Persp.* 2007, 115:924-931. **(IF 8.1)**
513. Coecke S, Balls M, Bowe G, Davis J, Gstraunthaler G, **Hartung** T, Hay R, Price A, Merten O-W, Stokes W, Schechtman L and Stacey G. Guidance on Good Cell Culture Practice. A Report of the Second ECVAM Task Force on Good Cell Culture Practice. In: Smith R. (ed). *Cell Technology for Cell Products*, Springer, Dordrecht, 313-315. DOI: 10.1007/978-1-4020-5476-1\_49.
514. Deininger S, Figueroa-Perez I, Sigel S, Stadelmaier A, Schmidt RR, **Hartung** T and von Aulock S. Definition of the cytokine inducing minimal structure of lipoteichoic acid using synthetic derivatives. *Clin. Vacc. Immunol.* 2007, 14:1629-1633. **(IF 3.2, 2018)**
515. Goldberg A and **Hartung** T. Ersatz von Tierversuchen – nicht nur zum Tierschutz. *Spektrum der Wissenschaften* 2007, 60-68.
516. **Hartung** T. Europe goes alternative – another step done. *ALTEX* 2007, 24:355-356. **(IF 6.3)**
517. **Hartung** T. Food for thought ... on validation. *ALTEX* 2007, 24:67-72. Doi: 10.14573/altex.2007.2.67 **(IF 6.3)**
518. **Hartung** T. Vor und Nachdenkliches... zur Validierung. *ALTEX* 2007, 24:73-80. **(IF 6.3)**
519. **Hartung** T. Food for thought ... on cell culture. *ALTEX* 2007, 24:143-147. doi:10.14573/altex.2007.3.143 **(IF 6.3)**
520. **Hartung** T. Vor und Nachdenkliches... zur Zellkultur. *ALTEX* 2007, 24:148-152. **(IF 6.3)**

521. **Hartung T** and Zuang V. Assessing the validity of alternative methods for toxicity testing. In: Zhai H, Wilhelm K-P and Maibach HI (editors). *Dermatotoxicology*, chapter 65, 7<sup>th</sup> edition. 2007, 569-576.
522. **Hartung T**. Reduction and replacement – ECVAM's response to REACH. *Toxicol.* 2007, 231:91-92. **(IF 4.6)**
523. Hasiwa M, Kullmann K, von Aulock S, Klein C and **Hartung T**. An in vitro e safety test for immune-stimulating components on surfaces. *Biomaterials* 2007, 28:1367-75. **(IF 12.5)**
524. Kim HG, Gim MG, Kim JY, Jin Hwang H, Ham MS, Lee JM, **Hartung T**, Park JW, Han SH and Chung DK. Lipoteichoic acid from *Lactobacillus plantarum* elicits both the production of Interleukin-23p19 and suppression of pathogen-mediated Interleukin-10 in THP-1 cells. *FEMS Immunol. Med. Microbiol.* 2007, 49:205-214. **(IF 4.2)**
525. Kimber I, Agius R, Basketter D, Corsini E, Cullinan P, Dearman R, Gimenez-Arnau E, Greenwell L, **Hartung T**, Kuper F, Maestrelli P, Roggen E and Rovida C. Chemical respiratory allergy: Opportunities for hazard identification and characterisation. The report and recommendations of ECVAM workshop 60. *ATLA – Altern. Lab. Anim.* 2007, 35:243-265. **(IF 1.3)**
526. Larmonier N, Cathelin D, Larmonier C, Nicolas A, Mérino D, Janikashvili N, Audia S, Bateman A, Thompson J, Kottke T, **Hartung T**, Katsanis E, Vile R, Bonnotte B. The inhibition of TNF-alpha anti-tumoral properties by blocking antibodies promotes tumor growth in a rat model. *Exp. Cell Res.* 2007, 313:2345-2355. **(IF 4.2)**
527. Liljeroos M, Vuolteenaho R, **Hartung T**, Morath S, Hallman M and Ojaniemi M. Bruton's kinase is activated by lipoteichoic acid and mediates toll-like receptor 2 responses in macrophages. *Cellul. Signal.* 2007, 19:625-633. **(IF 4.9)**
528. Linge J and **Hartung T**. ECVAM's approach to intellectual property rights in the validation of alternative methods. *ATLA – Altern. Lab. Anim.* 2007, 35:441-446. **(IF 1.3)**
529. Mayilyan KR, Krarup A, Soghoyan AF, **Hartung T** and Sim RB. MBL and L-ficolin components of the complement activation lectin pathway in schizophrenia. *Molecular Immunol.* 2007, 44:3940. **(IF 4.2)**
530. Mazzotti F, Beuttler J, Zeller R, Fink U, Schindler S, Wendel A, **Hartung T** and von Aulock S. In vitro pyrogen test – a new test method for solid medical devices. *J. Biomed. Mater. Res.* 2007, 80:276-282. **(IF 4.9)**
531. Raisanen L, Draing C, Pfitzenmaier M, Schubert K, Jaakonsaari T, von Aulock S, **Hartung T** and Alatossava T. Molecular Interaction between LTAs and *L. delbrueckii* phages depends on D-alanyl and alpha-Glucose substitution of poly(glycerophosphate) backbones. *J. Bacteriol.* 2007, 189:135-140. **(IF 3.5)**
532. Schindler S, Fennrich S, Cramer R, Jungi TW, Montag T and **Hartung T**. Fever in the test tube – towards a human(e) pyrogen test. *ALTEX* 2007, 24, Special Issue:60-62. **(IF 6.3)**
533. Spiller S, Dreher S, Meng G, Grabiec A, Thomas W, **Hartung T**, Pfeffer K, Hochrein H, Brade H, Bessler W, Wagner H and Kirschning CJ. Cellular Recognition of Tri-Myristoylated Peptide or Enterobacterial LPS via both TLR2 and TLR4. *J. Biol. Chem.* 2007, 282:13190-13198. **(IF 4.7)**
534. van Vliet E, Eskes C, Stingele S, Gartlon J, Price A, Farina M, Ponti J, **Hartung T**, Sabbioni E, and Coecke S. Development of a mechanistically-based genetically engineered PC12 cell system to detect p53-mediated cytotoxicity. *Toxicol. In Vitro* 2007, 21:698-705. **(IF 2.7)**
535. van Vliet E, Stoppini L, Balestrino M, Eskes C, Griesinger C, Sobanski T, **Hartung T** and Coecke S. Electrophysiological recording of re-aggregating brain cell cultures on multi-electrode arrays to detect acute neurotoxic effects. *Neurotox.* 2007, 28:1136-1146. doi: 10.1016/j.neuro.2007.06.004 **(IF 4.0)**
536. von Aulock S, **Hartung T** and Hermann C. "Comment on 'Not Lipoteichoic Acid but Lipoproteins Appear to Be the Dominant Immunobiologically Active Compounds in *Staphylococcus aureus*'". *J. Immunol.* 2007, 178:2610. **(IF 5.4)**

537. Adler S, Pellizzer C, Paparella M, **Hartung** T and Bremer S. The effects of solvents on embryonic stem cell differentiation. *Toxicol. In Vitro* 2006, 20:265-271. **(IF 3.7)**
538. Balls M, Amcoff P, Bremer S, Casati S, Coecke S, Clothier R, Combes R, Corvi R, Curren R, Eskes C, Fentem J, Gribaldo L, Halder M, **Hartung** T, Hoffmann S, Schechtman L, Scott L, Spielmann H, Stokes W, Tice R, Wagner D and Zuang V. The Principles of Weight of Evidence Validation of Test Methods and Testing Strategies. The Report and Recommendations of ECVAM Workshop 58. *ATLA – Altern. Lab. Anim.* 2006, 34: 603-620. **(IF 1.3)**
539. Balls M, Coecke S, Bowe G, Davis J, Gstraunthaler G, **Hartung** T, Hay R, Merten OW, Price A, Schechtman LM, Stacey G and Stokes W. The importance of good cell culture practice (GCCP). *ALTEX* 2006, 23 Suppl:270-273. **(IF 6.3)**
540. Boveri M, Kinsner A, Berezowski V, Lenfant A-M, Draing C, Cecchelli R, Dehouck M-P, **Hartung** T, Prieto P and Bal-Price A. Highly purified lipoteichoic acid from Gram-positive bacteria induces in vitro blood-brain barrier disruption through glia activation: role of pro-inflammatory cytokines and nitric oxide. *Neurosci.* 2006, 137:1193-1209. **(IF 3.1)**
541. Coecke S, Ahr H, Blauboer BJ, Bremer S, Casati S, Castell J, Combes R, Corvi R, Crespi CL, Cunningham ML, Elaut G, Eletti B, Freidig A, Gennari A, Ghersi-Egea J-F, Guillouzo A, **Hartung** T, Hoet P, Ingelman-Sundberg M, Munn S, Janssens W, Ladstetter B, Leahy D, Long A, Meneguz A, Monshouwer M, Morath S, Nagelkerke F, Pelkonen O, Ponti J, Prieto P, Richert L, Sabbioni E, Schaack B, Steiling W, Testai E, Vericat J-A and Worth A. Metabolism: A bottleneck in in vitro toxicological test development. *ATLA – Altern. Lab. Anim.* 2006, 34:49-84. **(IF 1.3)**
542. Coecke S, Elaut G and **Hartung** T. De rol van ECVAM in het validieren en implementeren van alternatieven voor proefdieren. In: Swart J, Groothuis G, Horbach J and van der Valk J. Kan het ook anders? 2006, DAMON, Budel, The Netherlands
543. Coecke S, Eskes C, Gartlon J, Kinsner A, Price A, van Vliet E, Prieto P, Boveri M, Bremer S, Adler S, Pellizzer C, Wendel A and **Hartung** T. The value of alternative testing for neurotoxicity in the context of regulatory needs. *Env. Toxicol. Pharmacol.* 2006, 21:153-167 **(IF 2.0)**
544. Corvi R, Ahr H-J, Albertini S, Blakey DH, Clerici L, Coecke S, Douglas GR, Gribaldo L, Groten JP, Haase B, Hamernik K, **Hartung** T, Inoue T, Indans I, Maurici D, Orphanides G, Rembges D, Sansone S-A, Snape JR, Toda E, Tong W, van Delft JH, Weis B and Schechtman LM. Validation of toxicogenomics-based test systems: ECVAM-ICCVAM/NICEATM considerations for regulatory use. *Environ. Health Persp.* 2006, 114:420-429. **(IF 8.1)**
545. Daneshian M, Guenther A, Wendel A, **Hartung** T and von Aulock S. In vitro pyrogen test for toxic or immunomodulatory drugs. *J. Immunol. Meth.* 2006, 313:169-175. **(IF 2.3)**
546. Dehus O, **Hartung** T and Hermann C. Endotoxin evaluation of eleven lipopolysaccharides by whole blood assay does not always correlate with Limulus amoebocyte lysate assay. *J. Endotoxin Res. (now Innate Immunity)* 2006, 12:71-80. **(IF 7.1)**
547. Draing C, Pfitzenmaier M, Zummo S, Mancuso G, Geyer A, **Hartung** T and von Aulock S. Comparison of lipoteichoic acid from different serotypes of *Streptococcus pneumoniae*. *J. Biol. Chem.* 2006, 281:33849-33859. **(IF 5.5)**
548. Figueroa-Perez I, Stadelmaier A, Deininger S, Aulock S, **Hartung** T and Schmidt RR. Synthesis of *Staphylococcus aureus* lipoteichoic acid derivatives for determining the minimal structural requirements for cytokine induction. *Carbohydr. Res.* 2006, 341:2901-11. **(IF 2.0)**
549. Goldberg A and **Hartung** T. Not just for the rabbits. *Scientific American* 2006, 294:84-91. **(IF 2.7)**
550. **Hartung** T. ECVAM's progress in implementing the 3Rs in Europe. *ALTEX* 2006, Suppl., 23:21-28. **(IF 6.3)**
551. Hattar K, Grandel U, Moeller A, Fink L, Iglhaut J, **Hartung** T, Morath S, Seeger W, Grimminger F and Sibelius U. Lipoteichoic acid (LTA) from *Staphylococcus aureus* stimulates human neutrophil cytokine release by a CD14-dependent, toll-like-receptor-independent mechanism: Autocrine role of tumor necrosis factor- $\alpha$  in mediating LTA-induced interleukin-8 generation. *Crit. Care Med.* 2006, 34:835-41. **(IF 9.3)**
552. Hermann C, von Aulock S, Dehus O, Keller M, Okigami H, Gantner F, Wendel A, and **Hartung** T. Endogenous cortisol determines the circadian rhythm of LPS- but not LTA-inducible cytokine release. *Eur. J. Immunol.* 2006, 36:371-379. **(IF 6.7)**

553. Hoffmann S and **Hartung** T. Designing validation studies more efficiently according to the modular approach: retrospective analysis of the EPISKIN test for skin corrosion. *ATLA – Altern. Lab. Anim.* 2006, 34:177-191. **(IF 1.3)**
554. Hoffmann S and **Hartung** T. Towards an evidence-based toxicology. *Human. Exp. Toxicol.* 2006, 25:497-513. doi: 10.1191/0960327106het648oa. **(IF 3.3)**
555. Kinsner A, Boveri M, Hareng L, Brown GC, Coecke S, **Hartung** T and Bal-Price A. Highly purified lipoteichoic acid induced proinflammatory signalling in primary culture of rat microglia through Toll-like receptor 2: selective potentiation of nitric oxide production by muramyl dipeptide. *J. Neurochem.* 2006, 99:596-607. **(IF 5.6)**
556. Lotz S, Starke A, Ziemann C, Morath S, **Hartung** T, Solbach W and Laskay T. Beta-lactam antibiotic-induced release of lipoteichoic acid from *Staphylococcus aureus* leads to activation of neutrophil granulocytes. *Ann. Clin. Microbiol. Antimicrob.* 2006, 5:15. **(IF 6.8)**
557. Muller M, Bunk S, Diterich I, Weichel M, Rauter C, Hassler D, Hermann C, Cramer R, and **Hartung** T. Identification of *Borrelia burgdorferi* ribosomal protein L25 by phage surface display and evaluation for serodiagnosis. *J. Clin. Microbiol.* 2006, 44:3778-3780. **(IF 5.9)**
558. Muller M, Stamme C, Draing C, **Hartung** T, Seydel U and Schromm AB. Cell activation of human macrophages by lipoteichoic acids is strongly attenuated by lipopolysaccharide-binding protein. *J. Biol. Chem.* 2006, 281:31448-31456. **(IF 5.5)**
559. Palumbo E, Degrohan M, Sandrococconcelli P, Kleerbezem M, Geyer A, **Hartung** T, Morath S and Hols P. D-Alanyl ester depletion of teichoic acids in *Lactobacillus plantarum* results in a major modification of lipoteichoic acid composition and cell wall perforations at the septum mediated by the Acm2 autolysin. *J. Bacteriol.* 2006, 188:3709-3715. **(IF 3.5)**
560. Prieto P, Baird AW, Blaauboer BJ, Vicente J, Ripoll C, Corvi R, Dekant W, Dietl P, Gennari A, Gribaldo L, Griffin JL, **Hartung** T, Heindel JJ, Hoet P, Jennings P, Marocchio L, Noraberg J, Pazos P, Westmoreland C, Wolf A, Wright J and Pfaller W. The assessment of repeated dose toxicity in vitro: a proposed approach. *ATLA – Altern. Lab. Anim.* 2006, 34:315-341. **(IF 1.3)**
561. Scheel O, Papavlassopoulos M, Blunck R, Gebert A, **Hartung** T, Zähringer U, Seydel U and Schromm A. Cell activation by ligands of the Toll-like receptor and interleukin-1 receptor family depends on the function of the large-conductance potassium channel MaxiK in human macrophages. *Infect. Immun.* 2006, 74:4354-4356. **(IF 3.1)**
562. Schindler S, Rosenberg U, Schlote D, Panse K, Kempe A, Fennrich S and **Hartung** T. Pyrogen testing of lipidic parenterals with a novel in vitro test. *PharmEuropa Sci. Notes* 2006, 1-7.
563. Schindler S, Spreitzer I, Loschner, Hoffmann S, Hennes K, Halder M, Brügger P, Frey E, **Hartung** T and Montag T. International validation of pyrogen tests based on cryopreserved human primary blood cells. *J. Immunol. Meth.* 2006, 316:42-51. **(IF 2.3)**
564. Spielmann H, Seiler A, Bremer S, Hareng L, **Hartung** T, Ahr H, Faustman E, Haas U, Moffat GJ, Nau H, Vanparys P, Piersma A, Sintes JR and Stuart J. The practical application of three validated in vitro embryotoxicity tests. The report and recommendations of an ECVAM/ZEBET workshop (ECVAM workshop 57). *ATLA – Altern. Lab. Anim.* 2006, 34:527-38. **(IF 1.3)**
565. Stacey GN and **Hartung** T. Availability, standardization and safety of human cells and tissues for drug screening and testing. Pp. 231-250, In: Marx U and Sandig V. *Drug Testing In Vitro: Breakthroughs and Trends in Cell Culture Technology*, WILEY-VCH Verlag, Weinheim 2007.
566. Stadelmaier A, Figueroa-Perez I, Deininger S, von Aulock S, **Hartung** T and Schmidt RR. A *Staphylococcus aureus* lipoteichoic acid (LTA) derived structural variant with two diacylglycerol residues. *Bioorg. Med. Chem.* 2006, 14:6239-6254. **(IF 3.5)**
567. Traub S, von Aulock S, **Hartung** T and Hermann C. MDP and other muropeptides – direct and synergistic effects on the immune system. *J. Endotox. Res. (now Innate Immunity)* 2006, 12:69-85. **(IF 7.1)**
568. Triantafilou M, Gamper FGJ, Haston RM, Mouratis RA, Morath S, **Hartung** T and Triantafilou K. Membrane sorting of toll-like receptor (TLR)-2/6 and TLR2/1 heterodimers at the cell surface determines heterotypic associations with CD36 and intracellular targeting. *J. Biol. Chem.* 2006, 281:31002-31011. **(IF 5.5)**

## 2005

569. Adler S, Paparella M, Pellizzer C, **Hartung** T and Bremer S. The detection of differentiation inducing chemicals by using the green fluorescent protein expression in genetically engineered teratocarcinoma cells. *ATLA – Altern. Lab. Anim.* 2005, 33:91-103. **(IF 1.3)**
570. Bogni A, Monshouwer M, Moscone A, Hidestrand M, Ingelman-Sundberg, **Hartung** T and Coecke S. Substrate specific metabolism by polymorphic cytochrome P450 2D6 alleles. *Toxicol. In Vitro* 2005, 19:621-629. **(IF 3.7)**
571. Boveri M, Berezowski V, Price A, Slupek S, Lenfant A-M, Benaud C, **Hartung** T, Cecchelli R, Prieto P and Dehouk M-P. Induction of blood-brain barrier properties in cultured brain capillary endothelial cells: comparison between primary glial cells and C6 cell line. *Glia* 2005, 51:187-198. **(IF 8.1)**
572. Casati S, Aeby P, Basketter DA, Cavani A, Gennari A, Gerberick, GF, Griem P, **Hartung** T, Kimber I, Lepoittevin J-P, Meade BJ, Pallardy M, Rougier N, Rousset F, Rubinstenn G, Sallusto F, Verheyen GR and Zuang V. Dendritic cells as a tool for the predictive identification of skin sensitisation hazard. *ATLA – Altern. Lab. Anim.* 2005, 33:47-62. **(IF 1.3)**
573. Coecke S, Balls M, Bowe G, Davis J, Gstraunthaler G, **Hartung** T, Hay R, Merten O-W, Price A, Schechtman L, Stacey G and Stokes W. Guidance on Good Cell Culture Practice. *ATLA – Altern. Lab. Anim.* 2005, 33: 261-287. **(IF 1.3)**
574. Dalpke A, Lehner M, **Hartung** T and Heeg K. Differential effects of CpG-DNA in TLR-2/TLR-4/TLR-9 tolerance and cross-tolerance. *Immunology* 2005, 116:203-212. **(IF 7.2)**
575. Figuero-Perez I, Stadelmaier A, Morath S, **Hartung** T and Schmidt RR. Synthesis of structural variants of Staphylococcus aureus lipoteichoic acid (LTA). *Tetrahedron* 2005, 16:493-506. **(IF 2.4)**
576. Forestier M, Buechi L, Hermann C, **Hartung** T and Beer JH. Fine and ultrafine particles differentially affect the PFA-100-times and raise proinflammatory cytokines in human blood. *Blood* 2005, 106:2640. **(IF 22.1)**
577. Gennari A, Ban M, Braun A, Casati S, Corsini E, Dastych J, Descotes J, **Hartung** T, Hooghe-Peters, House R, Pallardy M, Pieters R, Reid L, Tryphonas H, Tschirhart E, Tuschl H, Vandebriel R and Gribaldo L. The use of in vitro systems for evaluating immunotoxicity: the report and recommendations of an ECVAM workshop. *J. Immunotox.* 2005, 2:61-83. **(IF 3.4)**
578. Grandel U, Hopf M, Buerke M, Hattar K, Heep M, Fink L, Bohle RM, Morath S, **Hartung** T, Pullamsetti S, Schermuly RT, Seeger W, Grimminger F and Sibelius U. Mechanisms of cardiac depression caused by lipoteichoic acids from Staphylococcus aureus in isolated rat hearts. *Circulation* 2005, 112:691-698. **(IF 39.9)**
579. Grangette C, Nutten S, Palumbo E, Morath S, Hermann C, Dewulf J, Pot B, **Hartung** T, Hols P and Mercenier A. Enhanced anti-inflammatory capacity of a Lactobacillus plantarum mutant synthesizing modified teichoic acids. *Proc. Natl. Acad. Sci. U S A* 2005, 102:10321-10326. **(IF 12.8)**
580. Hareng L, Pellizzer C, Bremer S, Schwarz M and **Hartung** T. The Integrated Project ReProTect: a novel approach in reproductive toxicity hazard assessment. *Reproductive Toxicology* 2005, 20:441-452. **(IF 2.1)**
581. Hattar K, van Burck S, Bickenbach A, Grandel U, Maus U, Lohmeyer J, Csernok E, Hartung T, Seeger W, Grimminger F and Sibelius U. Anti-proteinase 3 antibodies (c-ANCA) prime CD14-dependent leukocyte activation. *J Leukoc Biol* 2005, 78:992-1000. **(IF 6.0)**
582. Henneke P, Morath S, Uematsu S, Weichert S, Pfitzenmaier M, Takeuchi O, Mueller A, Poyart C, Akira S, Berner R, Teti G, Geyer A, **Hartung** T, Trieu-Cuot P, Kasper DL and Golenbrock DT. Role of lipoteichoic acid in the phagocyte response to group B Streptococcus. *J. Immunol.* 2005, 174:6449-6455. **(IF 5.4)**
583. Hoebe K, Georgel P, Rutschmann S, Du X, Mudd S, Crozat K, Sovath S, Shamel L, **Hartung** T, Zahringer U and Beutler B. CD36 is a sensor of diacylglycerols. *Nature* 2005, 433:523-527. **(IF 69.5)**

584. Hoffmann S, Cole T and Hartung T. Skin irritation: prevalence, variability, and regulatory classification of existing in vivo data from industrial chemicals. *Regul. Toxicol. Pharmacol.* 2005, 41:159-166. **(IF 3.6)**
585. Hoffmann S and **Hartung T.** Diagnosis: Toxic! – Trying to apply approaches of clinical diagnostics and prevalence in toxicology considerations. *Toxicol. Sci.* 2005, 85, 422-428. doi: 10.1093/toxsci/kfi099 **(IF 4.1)**
586. Hoffmann S, Luderitz-Puchel U, Montag-Lessing U and **Hartung T.** Optimisation of pyrogen testing in parenterals according to different pharmacopoeias by probabilistic modelling. *J. Endotoxin Res. (now Innate Immunity)* 2005, 11:25-31. **(IF 7.1)**
587. Hoffmann S, Peterbauer A, Schindler S, Fennrich S, Poole S, Mistry Y, Montag-Lessing T, Spreitzer I, Loschner B, van Aalderen M, Bos R, Gommer M, Nibbeling R, Werner-Felmayer G, Loitzl P, Jungi T, Brcic M, Brugger P, Frey E, Bowe G, Casado J, Coecke S, de Lange J, Mogster B, Naess LM, Aaberge IS, Wendel A and **Hartung T.** International validation of novel pyrogen tests based on the human fever reaction. *J. Immunol. Meth.* 2005, 298:161-173. **(IF 2.3)**
588. Kindinger I, Daneshian M, Baur H, Gabrio T, Hofmann A, Fennrich S, von Aulock S and **Hartung T.** A new method to measure air-borne pyrogens based on human whole blood cytokine response. *J. Immunol. Meth.* 2005, 298:143-153. **(IF 2.3)**
589. Kinsner A, Pilotto V, Deininger S, Brown GC, Coecke S, **Hartung T** and Bal-Price A. Inflammatory neurodegeneration induced by lipoteichoic acid from *Staphylococcus aureus* is mediated by glia activation: the role of nitrosative and oxidative stress, mitochondrial dysfunction and caspase activation. *J. Neurochem.* 2005, 95:1132-1143. **(IF 5.6)**
590. Lund S, Porzgen P, Mortensen AL, Hasseldam H, Bozyczko-Coyne, Morath S, **Hartung T,** Bianchi M, Ghezzi P, Bsibsi M, Dijkstra S and Leist M. Inhibition of microglial inflammation by the inhibitor CEP-1347. *J. Neurochem.* 2005, 49:1439-1451. **(IF 5.6)**
591. Morath S, von Aulock A and **Hartung T.** Structure/ function relationships of lipoteichoic acids. *J. Endotoxin Res. (now Innate Immunity)* 2005, 11:348-356. **(IF 7.1)**
592. Pellizzer C, Bremer S and **Hartung T.** Developmental toxicity testing from animal towards embryonic stem cells. *ALTEX* 2005, 22:47-57. **(IF 6.3)**
593. Rauter C, Mueller M, Diterich I, Zeller S, Hassler D, Meergans T and **Hartung T.** Critical evaluation of urine PCR for Lyme Borreliosis. *Clin. Diagn. Lab. Immunol.* 2005, 12:910-917. **(IF 2.5, discontinued)**
594. Rauter C and **Hartung T.** Prevalence of *Borrelia burgdorferi sensu lato* genospecies in *Ixodes ricinus* ticks in Europe - a Metaanalysis. *Appl. Environ. Microb.* 2005, 71:7203-7216. **(IF 5.0)**
595. Rohrig CH, Retz OA, Hareng L, **Hartung T** and Schmidt RR. A new strategy for the synthesis of dinucleotides loaded with glycosylated amino acids-investigations on in vitro non-natural amino acid mutagenesis for glycoprotein synthesis. *Chembiochem.* 2005, 5:1805-1816. **(IF 3.5)**
596. Schroder NW, Diterich I, Zinke A, Eckert J, Draing C, Baehr VV, Hassler D, Priem S, Hahn K, Michelsen KS, **Hartung T,** Burmester GR, Gobel UB, Hermann C and Schumann RR. Heterozygous Arg753Gln polymorphism of human TLR-2 impairs immune activation by *Borrelia burgdorferi* and protects from late stage Lyme disease. *J. Immunol.* 2005, 175:2534-2540. **(IF 5.4)**
597. Zuang V and **Hartung T.** Making validated alternatives available – the strategies and work of the European Centre for the Validation of Alternative Methods (ECVAM). *AATEX* 2005, 11:15-26. **(IF 1.9)**

## 2004

598. von Aulock S, Boneberg E-M, Diterich I and **Hartung T.** G-CSF (Filgrastim) treatment primes for increased ex vivo inducible prostanoid release. *J. Pharmacol. Exp. Therapeut.* 2004, 308:754-759. **(IF 4.4)**
599. von Aulock S, Schroder NWJ, Traub S, Guenzius K, Lorenz E, **Hartung T,** Schumann R and Hermann C. No influence of heterozygous toll-like receptor 2 polymorphism on lipoteichoic acid induced chemokine and inflammatory response. *Infect. Immun.* 2004, 72:1828-1831. **(IF 7.1)**

600. von Aulock S, Diterich I, Hareng L and **Hartung** T. G-CSF: boosting endogenous production--a new strategy? *Curr. Opin. Investig. Drugs* 2004, 5:1148-52. **(IF 6.2)**
601. Boveri M, Pazos P, Gennari A, Casado J, **Hartung** T and Prieto P. Comparison of the sensitivity of different toxicological endpoints in Caco-2 cells after cadmium chloride treatment. *Arch. Toxicol.* 2004, 78:201-206. **(IF 6.2)**
602. Bremer S and **Hartung** T. The use of embryonic stem cells for regulatory developmental toxicity testing in vitro--the current status of test development. *Curr. Pharm. Des.* 2004, 10:2733-2747. **(IF 3.3)**
603. Dahle MK, Overland G, Myhre AE, Stuestol JF, **Hartung** T, Krohn CD, Mathiesen O, Wang JE and Aasen AO. The phosphatidylinositol 3-kinase/protein kinase B signaling pathway is activated by lipoteichoic acid and plays a role in Kupffer cell production of interleukin-6 (IL-6) and IL-10. *Infect. Immun.* 2004, 72:5704-11. **(IF 3.1)**
604. Gennari A, Berghe C, Casati S, Castell J, Clemedson C, Coecke S, Colombo A, Curren R, Negro GD, Goldberg A, Gosmore C, **Hartung** T, Langezaal I, Lessigiarska I, Maas W, Mangelsdorf I, Parchment R, Prieto P, Sintes JR, Ryan M, Schmuck G, Stitzel K, Stokes W, Vericat JA and Gribaldo L. Strategies to Replace In Vivo Acute Systemic Toxicity Testing. *ATLA - Altern. Lab. Anim.* 2004, 32:437-59. **(IF 1.3)**
605. Gruber FP and **Hartung** T. Alternatives to animal experimentation in basic research. *ALTEX* 2004, 21 Suppl. 1:3-31. **(IF 6.3)**
606. **Hartung** T, Bremer S, Casati S, Coecke S, Corvi R, Fortaner S, Gribaldo L, Halder M, Hoffmann S, Roi AJ, Prieto P, Sabbioni E, Scott L, Worth A and Zuang V. A Modular Approach to the ECVAM principles on test validity. *ATLA - Altern Lab Anim* 2004, 32:467-472. doi: 10.1177/026119290403200503. **(IF 1.3)**
607. **Hartung** T and Gribaldo L. New hepatocytes for toxicology? *Trends Biotechnol.* 2004, 22:613-5. **(IF 21.9)**
608. Hermann C, Gueinzus K, Oehme A, von Aulock S, Straube E and **Hartung** T. Evaluation of quantitative and semi-quantitative ELISAs for immunoglobulin G against *Chlamydomonas pneumoniae* in comparison to microimmunofluorescence test for patients with respiratory tract infections. *J. Clin. Microbiol.* 2004, 42:2476-2479. **(IF 5.9)**
609. Jennings P, Koppelstaetter C, Pfaller W, Morin JP, **Hartung** T and Ryan MP. Assessment of a new cell culture perfusion apparatus for in vitro chronic toxicity testing. Part 2: Toxicological evaluation. *ALTEX* 2004, 21:61-66. **(IF 6.3)**
610. Knapp S, Hareng L, Rijnveld AW, Bresser P, van der Zee JS, Florquin S, **Hartung** T and van der Poll T. Endogenous granulocyte colony-stimulating factor activates neutrophils but blunts pro-inflammatory cytokine response in murine pneumococcal pneumonia. *J. Inf. Dis.* 2004, 189:1506-1514. **(IF 12.7)**
611. Koppelstaetter C, Jennings P, Ryan MP, Morin JP, **Hartung** T and Pfaller W. Assessment of a new cell culture perfusion apparatus for in vitro chronic toxicity testing. Part 1: Technical description. *ALTEX* 2004, 21:51-60. **(IF 6.3)**
612. Lotz S, Aga E, Wilde I, van Zandbergen G, **Hartung** T, Solbach W and Laskay T. Highly purified lipoteichoic acid activates neutrophil granulocytes and delays their spontaneous apoptosis via CD14 and TLR2. *J. Leukoc. Biol.* 2004, 75:467-477. **(IF 6.0)**
613. Lynch NJ, Roscher S, **Hartung** T, Morath S, Matsushita M, Maennel DN, Kuraya M, Fujita T and Schwaebler WJ. L-ficolin specifically binds to lipoteichoic acid, a cell wall constituent of Gram-positive bacteria, and activates the lectin pathway of complement. *J. Immunol.* 2004, 172:1198-1202. **(IF 5.4)**
614. Mattsson E, **Hartung** T, Morath S and Egesten A. Highly purified lipoteichoic acid from *Staphylococcus aureus* induces procoagulant activity and tissue factor expression in human monocytes but is a weak inducer in whole blood - comparison with peptidoglycan. *Infect. Immun.* 2004, 72:4322-4326. **(IF 3.1)**
615. Netea MG, Suttmuller R, Hermann C, Van der Graaf CA, Van der Meer JW, van Krieken JH, **Hartung** T, Adema G and Kullberg BJ. Toll-like receptor 2 suppresses immunity against *Candida albicans* through induction of IL-10 and regulatory T cells. *J. Immunol.* 2004, 172:3712-3718. **(IF 5.4)**

616. Pellizzer C, Adler S, Corvi R, **Hartung** T and Bremer S, Monitoring of teratogenic effects in vitro by analysing a selected gene expression pattern. *Toxicol. In Vitro* 2004, 18:325-335. **(IF 3.7)**
617. Pellizzer C, Bello E, Adler S, **Hartung** T and Bremer S. Detection of tissue-specific effects by methotrexate on differentiating mouse embryonic stem cells. *Birth Defects Res. Part B Dev. Reprod. Toxicol.* 2004, 71:331-41. **(IF 2.1)**
618. Sabbioni E, Gatti AM and **Hartung** T. Pathology of new diseases induced by nanoparticles and in vitro toxicology research. *Pathology Int.* 2004, 54 (Suppl. 1):S141-S148. **(IF 2.1)**
619. Schindler S, Asmus S, von Aulock S, Wendel A, **Hartung** T and Fennrich S. Cryopreservation of human whole blood for pyrogenicity testing. *J. Immunol. Meth.* 2004, 294:89-100. **(IF 2.3)**
620. Schneider C, von Aulock S, Zedler S, Schinkel C, **Hartung** T. and Faist E, Perioperative recombinant human granulocyte colony-stimulating factor (filgrastim) treatment prevents immunoinflammatory dysfunction associated with major surgery. *Ann. Surgery* 2004, 239:75-81. **(IF 13.8)**
621. Traub S, Kubasch N, Morath S, Kresse M, **Hartung** T, Schmidt RR and Hermann C. Structural requirements of synthetic muropeptides to synergise with LPS in cytokine induction. *J. Biol. Chem.* 2004, 279:8694-8700. **(IF 5.5)**
622. Triantafilou M, Morath S, Mackie A, **Hartung** T and Triantafilou K. Lateral diffusion of Toll-like receptors reveals that they are transiently confined within lipid rafts on the plasma membrane. *J. Cell Sci.* 2004, 117:4007-4014 **(IF 5.2)**
623. Triantafilou M, Manukyan M, Mackie A, Morath S, **Hartung** T, Heine H and Triantafilou K. Lipoteichoic acid and Toll-like receptor 2 internalization and targeting to the Golgi is lipid raft dependent. *J. Biol. Chem.* 2004, 279:40882-40889. **(IF 5.5)**
624. Worth AP, **Hartung** T and Van Leeuwen CJ. The role of the European centre for the validation of alternative methods (ECVAM) in the validation of (Q)SARs. *SAR QSAR Environ Res* 2004, 15:345-358. **(IF 3.7)**
625. Worth AP, Van Leeuwen CJ and **Hartung** T. The prospects for using (Q)SARs in a changing political environment--high expectations and a key role for the European Commission's joint research centre. *SAR QSAR Environ Res* 2004,15:331-343. **(IF 3.7)**
626. Zeidler D, Zahringer U, Gerber I, Dubery I, **Hartung** T, Bors W, Hutzler P and Durner J. Innate immunity in *Arabidopsis thaliana*: lipopolysaccharides activate nitric oxide synthase (NOS) and induce defense genes. *Proc. Natl. Acad. Sci. U S A* 2004, 101:15811-6. **(IF 12.8)**

## 2003

627. von Aulock S, Hermann C, **Hartung** T. Determination of the eicosanoid response to inflammatory stimuli in whole blood and its pharmacological modulation ex vivo. *J. Immunol. Meth.* 2003, 188:938-43. **(IF 2.3)**
628. von Aulock S, Morath S, Hareng L, Knapp S, van Kessel KP, van Strijp JA and **Hartung** T. Lipoteichoic acid from *Staphylococcus aureus* is a potent stimulus for neutrophil recruitment. *Immunobiol.* 2003, 208:413-422. **(IF 3.2)**
629. von Aulock S, Schröder NWJ, Gueinzius K, Traub S, Hoffmann S, Graf K, Dimmeler S, **Hartung** T, Schumann RR, Hermann C. Heterozygous toll-like receptor 4 polymorphism influences LPS-induced cytokine release from murine macrophages but not in human whole blood. *J. Inf. Dis.* 2003, 188:938-43. **(IF 12.7)**
630. Boneberg E. and **Hartung** T. Febrile temperatures attenuate IL-1 $\beta$  release by inhibiting proteolytic processing of the proform and influence Th1/Th2 balance favoring Th2 cytokines. *J. Immunol.* 2003, 171:664-8. **(IF 5.4)**
631. Casati S and **Hartung** T. Dritter Report der EU zu Versuchstierzahlen liegt vor. *ALTEX* 2002, 20:93. **(IF 6.3)**
632. Deininger S, Stadelmaier A, von Aulock S, Morath S, Schmidt RR, **Hartung** T. Definition of structural prerequisites for lipoteichoic acid inducible cytokine induction by synthetic derivatives. *J. Immunol.* 2003, 170:4134-4138. **(IF 5.4)**

633. Diterich I, Rauter C, Kirschning CJ, **Hartung** T. Borrelia burgdorferi induced immune tolerance as a model of persistence via immunosuppression. *Infect. Immun.* 2003, 71:3979-87. **(IF 3.1)**
634. Hareng L, Meergans T, von Aulock S, Volk H-D, **Hartung** T. Cyclic AMP increases endogenous G-CSF formation in monocytes and THP-1 macrophages despite attenuated TNF $\alpha$  formation. *Eur. J. Immunol.* 2003, 33:2287-2296. **(IF 6.7)**
635. **Hartung** T, von Aulock S, Schneider C, Faist E. How to leverage an endogenous immune defense mechanism – the example of granulocyte colony-stimulating factor. *Critical Care Med.* 2003, 31:S65-75. **(IF 9.3)**
636. **Hartung** T, Bremer S, Casati S, Coecke S, Corvi R, Fortaner S, Gribaldo L, Halder M, Roi AJ, Prieto P, Sabbioni E, Worth A and Zuang V. ECVAM's response to the changing political environment for alternatives: Consequences of the European Union chemicals and cosmetics policy. *ATLA - Altern Lab Anim* 2003, 31:473-481. **(IF 1.3)**
637. Hermann C, von Aulock S, Graf K, **Hartung** T. A model of human whole blood lymphokine release for in vitro and ex vivo use. *J. Immunol. Meth.* 2003, 275:69-79. **(IF 2.3)**
638. Karzai W, Cui X, Mehlhorn B, Straube E, **Hartung** T, Gerstenberger E, Banks SM, Natanson C, Reinhart K and Eichacker PQ. Protection with antibody to tumor necrosis factor differs with similarly lethal Escherichia coli versus Staphylococcus aureus pneumonia in rats. *Anesthesiol.* 2003, 99:81-89. **(IF 9.2)**
639. Keiss H-P, Dirsch VM, **Hartung** T, Haffner T, Vollmar AM. Garlic (Allium sativum) modulates cytokine expression in LPS-activated human blood leading to an overall inhibitory effect on NF- $\kappa$ B activity. *J. Nutrition* 2003, 133:2171-5. **(IF 4.7)**
640. Kierner AK, **Hartung** T, Huber C, Vollmar AM. Phyllanthus amarus has anti-inflammatory potential by inhibition of iNOS, COX-2, and cytokines via the Nf $\kappa$ B pathway. *J Hepatol* 2003, 38:289-297. **(IF 30.1)**
641. Overland G, Morath S, Yndestad A, **Hartung** T, Thiemermann C, Foster SJ, Smedsrod B, Mathiesen O, Aukrust P, Aasen AO and Wang JE. Lipoteichoic acid is a potent inducer of cytokine production in rat and human Kupffer cells in vitro. *Surg. Infect.* 2003, 4:181-191. **(1.9)**
642. Rauter C and **Hartung** T. Von der Zeckenentfernung bis zur Immuntherapie – Lyme-Borreliose verhindern, erkennen und behandeln. *MMW Fortschr. Med.* 2003, 145:36-38. **(IF 0.1)**
643. Rijneveld AW, Florquin S, **Hartung** T, Speelman P, van der Poll T. Anti-tumor necrosis factor antibody impairs the therapeutic effect of ceftriaxone in murine pneumococcal pneumonia. *J. Inf. Dis.* 2003, 188:282-285. **(IF 12.7)**
644. Schindler S, Bristow A, Cartmell T, **Hartung** T and Fennrich S. Comparison of the reactivity of human and rabbit blood towards pyrogenic stimuli. *ALTEX* 2002, 20:59-63. **(IF 6.3)**
645. Schröder NWJ, Morath S, Alexander C, Hamann L, **Hartung** T, Zähringer U, Göbel UB, Weber JR, Schumann RR. Lipoteichoic acid (LTA) of S. pneumoniae and S. aureus activates immune cells via toll-like receptor (TLR)-2, LPS binding protein (LBP) and CD14 while TLR-4 and MD-2 are not involved. *J. Biol. Chem.* 2003, 278:15587-94. **(IF 5.5)**
646. Schröder NWJ, Hermann C, Hamann L, Göbel UB, **Hartung** T, Schumann RR. High frequency of polymorphism Arg753Gln of the Toll-like receptor-2 (TLR-2) gene detected by a novel allele specific PCR. *J. Mol. Med.* 2003, 81:368-72. **(IF 5.6)**
647. Stadelmaier A, Morath S, **Hartung** T, Schmidt RR. Synthesis of the first fully active lipoteichoic acid. *Angew. Chemie Int. Ed.* 2003, 42:916-920. auch: Stadelmaier A, Morath S, Hartung T, Schmidt RR. Synthese der ersten aktiven Lipoteichonsäure. *Angew. Chemie* 2003, 115:945-949. **(IF 16.6)**
648. Vreugdenhil ACE, Rousseau CH, **Hartung** T, Greve JWM, Buurman WA. Lipopolysaccharide (LPS) binding protein mediates LPS detoxification by chylomicrons; a potential defense mechanism of the intestine against bacterial toxins. *J. Immunol.* 2003, 170:1399-1405. **(IF 5.4)**
649. Weber NC, Blumenthal SB, **Hartung** T, Vollmar AM, Kierner AK. ANP inhibits TNF- $\alpha$ -induced endothelial MCP-1 expression--involvement of p38 MAPK and MKP-1. *J Leukoc Biol.* 2003, 74:932-941. **(IF 6.0)**

650. Westerholt S, Pieper A-K, Griebel M, Volk H-D, **Hartung** T, Oberhoffer R. Characterization of the cytokine immune response in children who have experienced an episode of typical hemolytic-uremic syndrome. *Clin. Diagn. Lab. Immunol.* 2003, 10:1090-1095. **(IF 2.5)**

## 2002

651. von Aulock S and **Hartung** T. Potential for immune reconstitution by G-CSF treatment in HIV patients. *Archiv. Immunol. Ther. Exp. (AITE)* 2002, 50:111-120. **(IF 3.9)**

652. Boneberg E and **Hartung** T. Mechanisms of attenuated cytokine release by G-CSF. *Eur. J. Immunol.* 2002, 32:1717-1725. **(IF 6.7)**

653. Boneberg E-M and **Hartung** T. Molecular aspects of anti-inflammatory action of G-CSF. *Inflamm. Res.*, 2002, 51:119-128. **(IF 7.0)**

654. Dalpke AH, Frey M, Morath S, **Hartung** T, Heeg K. Interaction of lipoteichoic acid and CpG-DNA during activation of innate immune cells. *Immunobiol.* 2002, 206:392-407. **(IF 3.2)**

655. Dörge H, Neumann T, Belosjorow S, Schulz R, van de Sand A, Konietzka I, **Hartung** T, Heusch G. Coronary microembolization: the role of TNF- $\alpha$  in contractile dysfunction. *J. Mol. Cell. Cardiol.* 2002, 34:51-62. **(IF 5.8)**

656. Ellingsen EA, Morath S, Flo TH, Schromm A, **Hartung** T, Thiemermann C, Espevik T, Golenbrock DT, Foster SJ, Solberg R, Aaasen AO and Wang JE. Induction of cytokine production in human T-cells and monocytes by highly-purified lipoteichoic acid: involvement of toll-like receptors and CD14. *Med. Sci. Monit.* 2002, 8:149-156. **(IF 3.4)**

657. Gstraunthaler G and **Hartung** T. Good Cell Culture Practice (GCCP) - Good laboratory practice in the cell culture laboratory for the standardization and quality assurance of in vitro studies. In: Lehr C.M. 'In vitro test systems for drug absorption and delivery' Harwood Academic Publishers, Reading U.K. 2002, 112-120.

658. Hareng L and **Hartung** T. Induction and regulation of endogenous granulocyte colony-stimulating factor formation. *Biol. Chem.* 2002, 383:1501-1517 **(IF 4.7)**

659. **Hartung** T. Three Rs Potential in the Development and Quality Control of Pharmaceuticals, *ALTEX* 2002, 18 (Suppl. 1):3-11. **(IF 6.3)**

660. **Hartung** T, Balls M, Bardouille C, Blanck O, Coecke S, Gstraunthaler G and Lewis D. Report of ECVAM task force on good cell culture practice (GCCP). *ATLA - Altern. Lab. Anim.* 2002, 30: 407-414. **(IF 1.3)**

661. **Hartung** T. Comparison and validation of novel pyrogen tests based on the human fever reaction. *ATLA – Altern. Lab. Anim.* 2002, 30 (Suppl. 2):49-51. **(IF 1.3)**

662. **Hartung** T. Vollbluttest. In: Krüger, M. Endotoxine – Bedeutung für Tiere und Menschen. Leipziger Universitätsverlag 2002, 59-72.

663. Hermann C, Spreitzer I, Schröder NWJ, Morath S, Lehner MD, Fischer W, Schütt C, Schumann RR and **Hartung** T. Cytokine induction by purified lipoteichoic acids from various bacterial species – role of LBP, sCD14, CD14 and failure to induce interleukin-12 and subsequent interferon- $\gamma$  release, *Eur. J. Immunol.* 2002, 32:541-551. **(IF 6.7)**

664. Hermann C, Graf K, Groh A, Straube E and **Hartung** T. Comparison of eleven commercial tests for IgG sero-diagnosis of previous or persistent Chlamydia pneumoniae infection. *J. Clin. Microbiol.* 2002, 40:1603-1609. **(IF 5.9)**

665. Hoffmann S, **Hartung** T and Beran J. Comments on the use of bootstrap resampling to assess the uncertainty of Cooper statistics. *ATLA – Altern. Lab. Animal.* 2002, 30:551-554. **(IF 1.3)**

666. Jacinto R, **Hartung** T, McCall C and Li L. Lipopolysaccharide and lipoteichoic acid-induced tolerance and cross-tolerance: distinct alterations in IL-1 receptor-associated kinase. *J. Immunol.* 2002, 168:6136-6146. **(IF 5.4)**

667. Kiemer AK, Lehner MD, **Hartung** T and Vollmar AM). Inhibition of Cyclooxygenase-2 by natriuretic peptides. *Endocrinol.* 2002, 143:846-852. **(IF 5.1)**

668. Kindinger I, Fennrich S, Zucker B, Linsel G and **Hartung T**. Determination of air-borne pyrogens by the in vitro pyrogen test (IPT) based on human whole blood cytokine response. VDI Bericht 1656, 2002, 499-507. **(0.1)**
669. Langezaal I, Hoffmann S, **Hartung T** and Coecke S. Evaluation and prevalidation of an immunotoxicity test based on human whole blood cytokine release. ATLA – Altern. Lab. Anim. 2002, 30:581-595. **(IF 1.3)**
670. Lehner MD and **Hartung T**. Endotoxin tolerance – mechanisms and beneficial effects in bacterial infection. Rev. Physiol. Biochem. Pharmacol. 2002, 144:95-141. **(IF 7.5)**
671. Lehner M, Schwoebel F, Kotyarov A, Leist M, Gaestel M and **Hartung T**. Mitogen-activated protein kinase-activated protein kinase 2-deficient mice show increased susceptibility to *Listeria monocytogenes* infection. J. Immunol. 2002, 168:4667-4673. **(IF 5.4)**
672. Lorenz E, Patel DD, **Hartung T** and Schwarz DA. A TLR4-deficient murine macrophage cell line as an in vitro assay to show TLR-4-independent signalling of *B. fragilis* LPS. Infect. Immun. 2002, 70:4892-4896. **(IF 3.1)**
673. Morath S, Geyer A, Spreitzer I, Hermann C and **Hartung T**. Structural decomposition and heterogeneity of commercial lipoteichoic acid preparation. Infect. Immun. 2002, 70:938-944. **(IF 3.1)**
674. Morath S, Stadelmaier A, Geyer A, Schmidt RR and **Hartung T**. Synthetic lipoteichoic acid from *Staphylococcus aureus* is a potent stimulus of cytokine release. J. Exp. Med. 2002, 195:1635-1640. **(IF 17.6)**
675. Rauter C, Oehme R, Diterich I, Engele M and **Hartung T**. Distribution of clinically relevant *Borrelia* genospecies in ticks assessed by a novel single-run real-time PCR. J. Clin. Microbiol. 2002, 40: 36-43. **(IF 5.9)**
676. Schindler S, **Hartung T** and the Human(e) Pyrogen Test Study Group. Comparison and validation of novel pyrogen tests based on the human fever reaction. Dev. Biol. Stand. 2002, 111:181-6. **(IF 5.6, discontinued)**
677. Yipp BG, Andonegui G, Howlett CJ, Robbins SM, **Hartung T** Ho M and Kubes P. Profound differences in leukocyte-endothelial cell responses to lipopolysaccharide versus lipoteichoic acid. J. Immunol. 2002, 168:4650-4658. **(IF 5.4)**

## 2001

678. Boneberg E-M and **Hartung T**. Mistletoe lectin-1 increases TNF- $\alpha$  release in lipopolysaccharide stimulated whole blood via inhibition of IL-10 production. J. Pharmacol. Exp. Therapeut. 2001, 298:996-1000. **(IF 4.4)**
679. Coecke S, Bogni A, Langezaal I, Worth A, **Hartung T** and Monshouwer M. The use of genetically engineered cells for assessing CYP2D6-related polymorphic effects, Toxicol. In Vitro 2001, 15:553-556. **(IF 3.7)**
680. Diterich I, Härter L, Hassler D, Wendel A and **Hartung T**, Modulation of cytokine release in ex vivo stimulated blood from borreliosis patients. Infect. Immun. 2001, 69:687-694. **(IF 3.1)**
681. Diterich I and **Hartung T**. *Borrelia burgdorferi* s.l., the infectious agent of lyme borreliosis. in: Mühldorfer I and Schäfer KP. Contrib. Microbiol. 2001, 8:72-89.
682. Diterich I and **Hartung T**. *Borrelia burgdorferi* s.l., the infectious agent of lyme borreliosis. in: Mühldorfer I and Schäfer KP. Emerging pathogens. Karger, Basel, 2001, 72-89.
683. Feterowski C, Weighardt H, Emmanuilidis K, **Hartung T** and Holzmann B. Immune protection against septic peritonitis in endotoxin-primed mice is related to reduced neutrophil apoptosis. Eur. J. Immunol. 2001, 31:1268-1277. **(IF 6.7)**
684. Fennrich S, Zucker B und **Hartung T**. Beispiel eines Einsatzbereiches des humanen Vollbluttests: Entwicklung eines Messverfahrens zur Abschätzung der gesundheitlichen Gefährdung durch luftgetragene mikrobielle Verunreinigungen. ALTEX 2001, 18:41-46. **(IF 6.3)**
685. Fischer M, Keller-Stanislawski B, Schober-Bendixen S, Schosser R, Hacke K, **Hartung T**, Montag T. Einfluß des Konservierungsmittels Thimerosal auf die Interleukin-1 Beta Ausschüttung humaner peripherer Blutzellen. ALTEX 2001, 18:47-49. **(IF 6.3)**

686. Götz A, Böttcher A, Orsó E, Kapinsky M, Nagy P, Bodnár A, Spreitzer I, Liebisch G, Drobnik W, Gempel K, Horn M, Holmer S, **Hartung** T, Multhoff G, Schütz G, Schindler H, Ulmer AJ, Heine H, Stelter F, Schütt C, Rothe G, Szöllösi J, Damjanovich S and Schmitz G, Lipopolysaccharide and ceramide docking to CD14 provokes ligand specific raft domain clustering. *Eur. J. Immunol.* 2001, 31: 3153-3164. **(IF 6.7)**
687. **Hartung** T, Aaberge I, Berthold S, Carlin G, Charton E, Coecke S, Fennrich S, Fischer M, Gommer M, Halder M, Haslov K, Jahnke M, Montag-Lessing T, Poole S, Schechtman L, Wendel A and Werner-Felmayer G. ECVAM workshop on novel pyrogen tests based on the human fever reaction. *ATLA – Altern. Lab. Anim.* 2001, 29:99-123. **(IF 1.3)**
688. **Hartung** T, Gstraunthaler G, Coecke S, Lewis D, Blanck O und Balls M. Good Cell Culture Practice (GCCP) – eine Initiative zur Standardisierung und Qualitätssicherung von in vitro Arbeiten. Die Etablierung einer ECVAM Task Force on GCCP. *ALTEX* 2001, 18:75-78. **(IF 6.3)**
689. **Hartung** T. Summary: EU standards measurements and testing project PL95-3407. Development of standardised in vitro methodology for hepatic and renal toxicity testing. *ATLA – Altern. Lab. Anim.* 2001, 29:493-495. **(IF 1.3)**
690. **Hartung** T, Gavia M, Garrido SM, Root RK. G-CSF and GM-CSF. in: Holland SM. Cytokine therapeutics in infectious diseases. Lippincott Williams & Wilkins, 2001, 185-219.
691. Langezaal I, Coecke S. and **Hartung** T. Whole blood cytokine response as a measure of immunotoxicity. *Toxicol. In Vitro* 2001, 15:313-318. **(IF 3.7)**
692. Lehner MD, Ittner J Bundschuh DS, von Rooijen N, Wendel A and **Hartung** T. Improved innate immunity of endotoxin tolerant mice increases resistance to Salmonella typhimurium infection despite attenuated cytokine response. *Infect. Immun.* 2001, 69:463-471. **(IF 3.1)**
693. Lehner MD, Morath S, Michelsen KS, Schumann RR and **Hartung** T. Induction of cross-tolerance by LPS and highly purified lipoteichoic acid via different Toll like receptors independent of paracrine mediators. *J. Immunol.* 2001, 165:5161-5167. **(IF 5.4)**
694. Morath S, Geyer A, **Hartung** T. Structure/function-relationship of cytokine induction by lipoteichoic acid from Staphylococcus aureus. *J. Exp. Med.*, 2001, 193:393-397. **(IF 17.6)**
695. Michelsen KS, Aicher A, Mohaupt M, **Hartung** T, Dimmeler S, Kirschning CJ and Schumann RR. The role of Toll-like receptors (TLRs) in bacteria-induced maturation of murine dendritic cells -PGN and LTA are inducers of DC maturation and require TLR2. *J. Biol. Chem.* 2001, 276: 22041-22047. **(IF 5.5)**
696. Opitz B, Schröder NWJ, Spreitzer I, Michelsen KS, Kirschning CJ, Hallatschek W, Zähringer U, **Hartung** T, Göbel UB and Schumann RR. Toll-like receptor (TLR)-2 mediates treponema glycolipid and lipoteichoic acid (LTA)-induced NF-kappa B translocation. *J. Biol. Chem.* 2001, 276:22041-22047. **(IF 5.5)**
697. Pfaller W, Balls M, Clothier R, Coecke S, Dierickx P, Ekwall B, Hanley BA, **Hartung** T, Prieto MP, Ryan MP, Schmuck G, Sladowsky D, Vericat J-A, Wendel A, Wolf A and Zimmer J. Novel advanced in vitro methods for long-term toxicity testing – ECVAM workshop report. *ATLA – Altern. Lab. Animal.* 2001, 29:393-426. **(IF 1.3)**
698. Schneider M and **Hartung** T. Induction of the chemokines IL-8 and MCP-1 in human whole blood by a cell-lysate of human fibroblast cells. *Immunol. Lett.* 2001, 75:163-165. **(IF 2.3)**
699. Sommer C, Lindenlaub T, Teuteberg P, Schafers M, **Hartung** T and Toyka KV. Anti-TNF-neutralizing antibodies reduce pain-related behavior in two different mouse models of painful mononeuropathy. *Brain. Res.* 2001, 913:86-89. **(IF 3.6)**
700. van de Wetering JK, van Eijk M, van Golde LMG, **Hartung** T, van Strijp JAG and Batenburg JJ. Characteristics of surfactant protein A and D binding to lipoteichoic acid and peptidoglycan, two major cell wall components of Gram-positive bacteria. *J. Inf. Dis.* 2001, 184:1143-1151. **(IF 12.7)**
701. Weishaupt A, Brück W, **Hartung** T, Toyka KV and Gold R. Schwann cell apoptosis in experimental autoimmune neuritis of the Lewis rat and the functional role of tumor necrosis factor- $\alpha$ . *Neuroscience Lett.* 2001, 306: 77-80. **(IF 3.2)**
702. Weiss M, Fischer G, Barth E, Boneberg EM, Schneider EM, Georgieff M and **Hartung** T. Dissociation of LPS-induced monocytic ex-vivo production of granulocyte colony-stimulating factor (G-CSF) and TNF- $\alpha$  in patients with septic shock. *Cytokine* 2001, 13:51-54. **(IF 3.9)**

703. Wendel A, Ryan MP, **Hartung** T, Bach PH, Pfaller W, Morin JP, Villa P, Witkamp R, Van Gompel J and Kilty CG. Summary: EU Standards Measurements and Testing Project PL95–3407. Development of a standardised in vitro methodology for hepatic and renal toxicity testing. ATLA – Altern. Lab. Animal. 2001, 29:493-495. **(IF 1.3)**

## 2000

704. Al-Qaoud KM, Pearlman E, **Hartung** T, Klukowski J, Fleischer B and Hoerauf A. A new mechanism for IL-5 dependent helminth control: neutrophil accumulation and neutrophil-mediated worm encapsulation in murine filariasis are abolished in the absence of IL-5. Int. Immunol. 2000, 12:899-908. **(IF 5.1)**

705. Boneberg EM, Gantner F, Hareng L, Wendel A and **Hartung** T. Human monocytes express functional receptors for granulocyte colony-stimulating factor. Blood 2000, 95:270-276. **(IF 22.1)**

706. Bonenberger J, Diekmann W, Fennrich S, Fischer M, Friedrich A, Hansper M, **Hartung** T, Jahnke M, Löwer J, Montag T, Petri E, Sonntag H-G., Weigand M, Wendel A und Zucker B. Pyrogenestung mit Vollblut - Zusammenfassung eines Status-Workshops am Paul-Ehrlich-Institut, Langen, am 22.11.99. Bundesgesundheitsbl. Gesundheitsforsch. Gesundheitsschutz 2000, 43:525-533. **(IF 1.6)**

707. Fischer M, Hartzsch K, **Hartung** T, und Montag-Lessing T. Prävalidierung des Vollblutpyrogenests für biologische Arzneimittel – aktuelle Ergebnisse. in: Schöffl H et al. Forschung ohne Tierversuche 2000. Springer, Wien 2000, 135-146.

708. **Hartung** T, von Aulock S, Freitag M, Höxtermann S, Stücker M, Hoffmann K, Altmeyer P, Kottke A and Wendel A. Blood cytokine response of low dose Molgramostim (rhGM-CSF) treated patients. Cytokine, 2000, 12:1570-1574. **(IF 3.9)**

709. **Hartung** T. Chip, Chip, Hurra! Die Amerikaner feiern den Gen-Chip – feiern wir mit? ALTEX 2000, 17:101-102. **(IF 6.3)**

710. **Hartung** T, von Aulock S and Wendel A. Growth factors G-CSF and GM-CSF: clinical options. In: Baue A, Faist E and Fry DE. 'SIRS, MODS and MOF – Systemic Inflammatory Response Syndrome, Multiple Organ Dysfunction Syndrome and Multiple Organ Failure – Pathophysiology, Prevention and Therapy', Berlin-Heidelberg-New York, Springer 2000, 621-629.

711. **Hartung** T, Sauer A und Wendel A. Prävalidierung eines Zellkulturmodelles für das Leberversagen im Septischen Schock. in: Schöffl H et al. Forschung ohne Tierversuche 2000. Springer, Wien 2000, 316-322.

712. **Hartung** T and Gstraunthaler G. The standardisation of cell culture procedures. In: Balls M, van Zeller A-M and ME Halder. Progress in the reduction, refinement and replacement of animal experimentation, Elsevier 2000, 1655-1658.

713. **Hartung** T, Fennrich S, Fischer M, Montag-Lessing T and Wendel A. Prevalidation of an alternative to the rabbit pyrogen test based on human whole blood. In: Balls M, van Zeller A-M and Halder ME. Progress in the reduction, refinement and replacement of animal experimentation, Elsevier 2000, 991-999.

714. Kiemer AK, **Hartung** T and Vollmar AM. cGMP-mediated inhibition of TNF- $\alpha$  production by the atrial natriuretic peptide in murine macrophages. J. Immunol. 2000, 165:175-181. **(IF 5.4)**

715. Lindenlaub T, Teuteberg P, **Hartung** T and Sommer C. Effects of neutralizing antibodies to TNF-alpha on pain related behaviour and nerve regeneration in mice with chronic constriction injury. Brain Res. 2000, 866:15-22. **(IF 3.6)**

716. Von Aulock S, Boneberg EM and **Hartung** T. Intermittent G-CSF (Filgrastim) treatment cannot induce lymphocytosis in volunteers. Clin. Pharmacol. Therap. 2000, 68, 104. **(IF 7.1)**

717. Weishaupt A, Gold R, **Hartung** T, Gaupp S, Wendel A, Brueck W and v. Toyka K. Role of TNF-alpha in high-dose antigen therapy in experimental autoimmune neuritis: inhibition of TNF-alpha by neutralizing antibodies reduces T-cell apoptosis and prevents liver necrosis. J. Neuropathol. Exp. Neurol. 2000, 59:368-376. **(IF 3.2)**

718. Weishaupt A, Jander S, Brück W, Kuhlmann T, Stienekemeier M, **Hartung** T, Toyka KV, Stoll G and Gold R. Molecular mechanisms of high-dose antigen therapy in experimental autoimmune

encephalomyelitis: rapid induction of Th1 type cytokines and iNOS. *J. Immunol.* 2000, 165:7157-7163. **(IF 5.4)**

719. Weiss M, Fischer G, Barth E, Boneberg E, Schneider EM, Georgieff M and **Hartung T**. Patterns of LPS-induced ex-vivo production of granulocyte colony-stimulating factor (G-CSF) differ from those of TNF- $\alpha$  in patients with septic shock. *Shock* 2000, 13 (Suppl):104-105. **(IF 3.5)**
720. Westerholt S, Tollens M, Güstrau A, Oberhoffer M, Karch H, **Hartung T**, Klare B, Pfeffer K, Emmrich P and Oberhoffer R. Inflammatory and immunological parameters in children with hemolytic uremic syndrome (HUS) and gastroenteritis – pathophysiological and diagnostic clues. *Cytokine* 2000, 6:822-827. **(IF 3.9)**

#### 1999

721. Ertel W, Keel M, Buergi U, **Hartung T**, Imhof H and Trentz O. Granulocyte colony-stimulating factor inhibits neutrophil apoptosis at the local site after severe head and thoracic injury. *J. Trauma* (now *Journal of Trauma and Acute Care Surgery*) 1999, 46:784-793. **(IF 3.4)**
722. Fan X, Stelter F, Menzel R, Jack R, Spreitzer I, **Hartung T** and Schuett C. Structures in *Bacillus subtilis* are recognized by CD14 in a LBP-dependent reaction. *Infect. Immun.* 1999, 67:2964-2968. **(IF 3.1)**
723. Fennrich S, Fischer M, **Hartung T**, Lexa P, Montag-Lessing T, Sonntag H-G, Weigandt M und Wendel A. Detection of endotoxins and other pyrogens using human whole blood. *Dev. Biol. Standards*, 1999, 101:131-139. **(IF 5.6, discontinued)**
724. Fennrich S, Wendel A and **Hartung T**. New applications of the human whole blood pyrogen assay (PyroCheck). *ALTEX* 1999, 16:146-149. **(IF 6.3)**
725. Fennrich S, Berthold S, Weigand M, Lexa P, Sonntag H-G, **Hartung T** and Wendel A. Pyrogentestung mit humanem Blut. *Der Tierschutzbeauftragte* 1999, 8:102-107.
726. Gstraunthaler G and **Hartung T**. Bologna declaration toward Good Cell Culture Practice. *ATLA – Altern. Lab. Anim.* 1999, 27:206. **(IF 1.3)**
727. **Hartung T**, Döcke W-D, Bundschuh DS, Foote M, Gantner F, Hermann S, Lenz A, Milwee S, Rich B, Simon B, Volk H-D, von Aulock S and Wendel A. Effect of Filgrastim treatment on inflammatory cytokines and lymphocyte functions. *Clin. Pharmacol. Therap.* 1999, 66:415-424. **(IF 7.1)**
728. **Hartung T**. Granulocyte colony-stimulating factor: its potential role in infectious disease. *AIDS* 1999, 13:S3-9. **(IF 4.6)**
729. **Hartung T**. Anti-inflammatory aspects of Filgrastim and impact on IL-2 release. *Journal of Hematotherapy & Stem Cell Research.* 1999, 8:S21-22. **(IF 4.2, discontinued)**
730. Oberhoffer M, Vogelsang H, Russwurm S, **Hartung T** and Reinhart, K. Outcome prediction by traditional and new markers of inflammation in patients with sepsis. *Clin. Chem. Lab. Med.* 1999, 37:363-368. **(IF 8.5)**
731. Stamme C, Bundschuh DS, **Hartung T**, Gebert U, Wollin L, Nüsing R, Wendel A and Uhlig S. Temporal sequence of pulmonary and systemic inflammatory responses to graded polymicrobial peritonitis in mice. *Infect. Immun.* 1999, 67:5642-5650. **(IF 3.1)**

#### 1998

732. Fennrich S, Fischer M, **Hartung T**, Lexa P, Montag-Lessing T, Sonntag H-G, Weigandt M und Wendel A. Entwicklung und Evaluierung eines Pyrogentests mit menschlichem Blut. *ALTEX* 1998, 15:123-128. **(IF 6.3)**
733. Fischer M, Hartzsch K, **Hartung T** and Montag-Lessing T. Erste Erfahrungen bei der Prävalidierung des Vollblutpyrogentests für biologische Arzneimittel [First Results in the prevaluation of the human whole blood assay for pyrogens in biological pharmaceuticals]. *ALTEX* 1998, 15, Suppl. 1:10–13. **(IF 6.3)**

734. **Hartung T**, Pitrak DL, Foote M, Shatzen EM, Verral SC and Wendel A. Filgrastim (r-metHuG-CSF) restores IL-2 production of blood from advanced HIV patients. *J. Inf. Dis.* 1998, 178:686-692. **(IF 12.7)**
735. **Hartung T**. Anti-inflammatory effects of G-CSF. *Curr. Opin. Hematol.* 1998, 5:221-225. **(IF 3.2)**
736. **Hartung T**. Immunomodulation by colony-stimulating factors, *Rev. Physiol. Biochem. Pharmacol.* 1998, 136:1-164. **(IF 7.5)**
737. **Hartung T** und Wendel A. Ersatz von Tierversuchen in der Pharmakologie - Ziel oder Zwang, Utopie oder Realität? *ALTEX* 1998, 15:213-215. **(IF 6.3)**
738. **Hartung T**, von Aulock S and Wendel A. Role of granulocyte colony-stimulating factor (G-CSF) in infection and inflammation. *Med. Microbiol. Immunol.* 1998, 187:61-69. **(IF 4.2)**
739. **Hartung T** and Wendel A. Immunomodulatory properties of Filgrastim (r-metHuG-CSF) in preclinical models. in: Morstyn G et al. *Filgrastim (r-metHuG-CSF) in clinical practice.* Marcel Dekker, New York 1998, 397-427.
740. **Hartung T**. und Wendel A. Der Nachweis von Pyrogenen mit menschlichem Blut. *Tierlaboratorium* 1998, 20:9-16.
741. **Hartung T**, Cramer R and Wendel A. Entwicklung eines Pyrogentests mit Kaninchenblut [Development of a pyrogen test based on rabbit blood]. *ALTEX* 1998, 15, Suppl. 1:17-18. **(IF 6.3)**
742. Senaldi G, Shaklee CL, Simon B, Rowan CG, Lacey DL and **Hartung T**. Keratinocyte growth factor protects murine hepatocytes from tumor necrosis factor-induced apoptosis in vivo and in vitro. *Hepatology* 1998, 27:1584-1591. **(IF 17.4)**
743. Stelter F, Witt S, Füll B, Jack RS, **Hartung T** and Schütt C. Different efficacy of soluble CD14 treatment in high- and low-dose LPS models. *Eur. J. Clin. Invest.* 1998, 28:205-213. **(IF 5.7)**

#### 1997

744. Bundschuh DS, Barsig J, **Hartung T**, Randow F, Döcke W-D, Volk H-D and Wendel A. Granulocyte-macrophage colony-stimulating factor and IFN- $\gamma$  restore the systemic TNF- $\alpha$  response to endotoxin in lipopolysaccharide-desensitized mice. *J. Immunol.* 1997, 158:2862-2871. **(IF 5.4)**
745. **Hartung T**, Sauer A, Hermann C, Brockhaus F and Wendel A. Overactivation of the immune system by translocated bacteria and bacterial products. *Scand. J. Gastroenterol.* 1997, 32:S98-S99. **(IF 3.0)**
746. **Hartung T** and Wendel A. The detection of pyrogens with a method involving human whole blood. in: van Zutphen LFM, Balls M: *Animal alternatives, welfare and ethics.* Elsevier, 1997, 683-686.
747. **Hartung T**, Sauer A and Wendel A. A cell culture model of endotoxic shock. in: van Zutphen LFM, Balls M: *Animal alternatives, welfare and ethics.* Elsevier, 1997, 677-681.
748. Keel M, Ungethüm U, Steckholzer U, Niederer E, **Hartung T**, Trentz O, and Ertel W. Interleukin-10 counterregulates proinflammatory cytokine-induced inhibition of neutrophil apoptosis during severe sepsis. *Blood* 1997, 90:3356-3363. **(IF 22.1)**
749. Randow F, Döcke W-D, Bundschuh DS, **Hartung T**, Wendel A and Volk H-D. In vitro prevention and reversal of lipopolysaccharide desensitization by IFN $\gamma$ , IL-12 and granulocyte-macrophage colony-stimulating factor. *J. Immunol.* 1997, 158:2911-2918. **(IF 5.4)**
750. Vollmar B, Messner S, Wanner GA, **Hartung T** and Menger MD. Immunomodulatory action of granulocyte-colony-stimulating factor in a rat model of endotoxin-induced liver injury: a intravital microscopic analysis of Kupffer cell and leukocyte response. *J. Leukoc. Biol.* 1997, 62:710-718. **(IF 6.0)**

#### 1996

751. Barsig J, Bundschuh DS, **Hartung T**, Bauhofer A, Sauer A and Wendel A. Control of fecal peritoneal infection in mice by colony-stimulating factors. *J. Infect. Dis.* 1996, 174:790-799. **(IF 12.7)**
752. Gebhardt R, **Hartung T**. Cokulturen in der in vitro-Toxikologie. *Biospektrum* 1996, 2:36-39. **(IF 0.1)**
753. **Hartung T**, Sauer A and Wendel A. Testing of immunomodulatory properties in vitro. *Dev. Biol. Stand.* 1996, 86:85-96. **(IF 5.6, discontinued)**
754. **Hartung T**, Hermening S, Sauer A und Wendel A. Freisetzung eines Botenstoffes der Entzündung (TNF- $\alpha$ ) aus Lebermakrophagen in Perfusions-Zellkultur. *ALTEX* 1996, 13:17-23. **(IF 6.3)**
755. **Hartung T** and Wendel A. Detection of pyrogens using human whole blood. *In Vitro Toxicol.* 1996, 9:353-359. **(IF 0.8, discontinued)**
756. **Hartung T**, Krieger G, Volk H-D and Wendel A. Reduced proinflammatory cytokines and increased antagonists in LPS-stimulated blood from G-CSF treated volunteers. in: Faist et al. *Immune consequences of trauma, shock and sepsis. Vol.II.2*, Pabst, Lengerich 1996, 838-841.
757. **Hartung T** und Wendel A. Eine Methode unter Verwendung von menschlichem Vollblut zum Ersatz des Pyrogentests am Kaninchen. in: Schöffl H et al. *Forschung ohne Tierversuche* 1996. Springer, Wien 1996, 34-39.
758. Sauer A, **Hartung T**, Aigner J and Wendel A. Endotoxin-inducible granulocyte-mediated hepatocytotoxicity requires adhesion and serine protease release. *J. Leukoc. Biol.* 1996, 60:633-643. **(IF 6.0)**
759. Sauer A, **Hartung T** und Wendel A. Ein in vitro-Modell zur immunpharmakologischen Untersuchung von Mechanismen der Gram-positiven und Gram-negativen Sepsis. in: Schöffl H et al. *Forschung ohne Tierversuche* 1996. Springer, Wien 1996, 29-33.

## 1995

760. **Hartung T**, Döcke W-D, Gantner F, Krieger G, Sauer A, Stevens P, Volk H-D and Wendel A. Effect of granulocyte colony-stimulating factor treatment on ex vivo blood cytokine response in human volunteers. *Blood* 1995, 85:2482-2489. **(IF 22.1)**
761. **Hartung T**, Volk H-D and Wendel A. G-CSF - an anti-inflammatory cytokine. *J. Endotoxin Res. (now Innate Immunity)* 1995, 2:195-201. **(IF 7.1)**
762. **Hartung T** und Wendel A. Die Erfassung von Pyrogenen in einem humanen Vollblutmodell. *ALTEX* 1995,12:70-75. **(IF 6.3)**
763. **Hartung T** und Spielmann H. Der lange Weg zur validierten Ersatzmethode. *ALTEX* 1995, 12:98-103. **(IF 6.3)**
764. **Hartung T**, Sauer A and Wendel A. Immunopharmacological testing in vitro. *Cell Physiol. Biochem.* 1995, 5:62. **(IF 1.1)**
765. **Hartung T**, Odenthal KP, Sauer A, Schwarz T und Wendel A. Entwicklung eines Verfahrens zum pharmakologischen Screening von Wirksubstanzen gegen Septischen Schock im Zellkultursystem. in: Schöffl H et al. *Forschung ohne Tierversuche* 1995. Springer, Wien 1995, 138-145.
766. Sauer A, **Hartung T**, Bohlinger I, Klesen C, Helpap B und Wendel A. Histopathologie der Endotoxin-induzierten, TNF-vermittelten Leberschädigung in der Maus. *Verh. Dtsch. Ges. Path.* 1995, 79:300.
767. Sauer A, **Hartung T** und Wendel A. Die septische Leberschädigung im Zellmodell: Überaktivierung von Zellen der unspezifischen Immunabwehr. in: Schöffl H et al. *Forschung ohne Tierversuche* 1995. Springer, Wien 1995, 296-300.

## 1993

768. **Hartung T** und Wendel A. Entwicklung eines Zellkulturmodelles für das Organversagen im septischen Schock. *ALTEX* 1993, 18:6-24. **(IF 6.3)**

769. **Hartung T** and Wendel A. An in vitro model of hepatic failure in septic shock. in: Faist E et al. 'Host defense dysfunction in trauma, shock and sepsis', Springer, Berlin 1993, 493-498.
770. **Hartung T** und Wendel A. Ein Zellkulturmodell für das Organversagen im septischen Schock. in: Schöffl H et al. 'Alternativen zu Tierversuchen in Ausbildung, Qualitätskontrolle und Herz-Kreislauf-Forschung' Springer, Wien 1993, 219-225.

## 1992

771. Görgen I, **Hartung T**, Leist M, Niehörster M, Tiegs G, Uhlig S, Weitzel F and Wendel A. Granulocyte colony-stimulating factor treatment protects rodents against lipopolysaccharide-induced toxicity via suppression of systemic tumor necrosis factor- $\alpha$ . J. Immunol. 1992, 149:918-924. **(IF 5.4)**
772. **Hartung T** and Wendel A. Endotoxin-inducible cytotoxicity in liver cell cultures - II: Demonstration of endotoxin-tolerance. Biochem. Pharmacol. 1992, 43:191-196. **(IF 6.1)**
773. **Hartung T**, Tiegs G and Wendel A. The role of leukotriene D<sub>4</sub> in septic shock models. Eicosanoids 1992, 5:S42-S44. **(IF 0.7, discontinued)**

## 1991

774. **Hartung T** and Wendel A. Endotoxin-inducible cytotoxicity in liver cell cultures - I. Biochem. Pharmacol. 1991, 42:1129-1135. doi: 10.1016/0006-2952(91)90298-j **(IF 6.1)**
775. **Hartung T**, Leist M, Tiegs G, Baschong W and Wendel A. Solcoseryl prevents inflammatory and hypoxic but not toxic liver damage in rodents. Inflammopharmacology 1991, 1:49-60. **(IF 5.1)**

## Patents

Compositions and Methods for Neuralgenesis

PCT/US2017/017464 from 10.02.2017; granted as Patent number: 11654161, 23 May 2023

EP3442543A1 from 20.02.2019

Provisional US Application 62/294,112 from 11.02.2016

US Patent #12,156,890 on 3.12.2024

JHTVs system: C13757

Method to Prepare a Reference Material for Pyrogen Testing in Cell and Particle Preparations

Provisional Application from 08.07.2014

Method for determining substance non-toxicity

US 2013/00055 81 published 3 Jan 2013, based on

Provisional Application 61/313,835 from 15.03.2010

Method for assaying flowing media for microbial toxins

EP 02 729 818.9 submitted 25.03.2002, under evaluation

US 10/474 694 submitted 10.10.2003, granted 29.06.2010

JP 2002-581 998 submitted 04.12.2003, granted 10.04.2009

Method for determining the content of endotoxins in liquids

DE 10247430 A1 submitted 11.10.2002

PCT/EP2003/011028 submitted 06.10.2003

Method of producing antigens, antigens and their use

EP 1394254 A1 submitted 16 Aug 2002, discontinued 2004

Test procedure with biological system

EP 0 741 294 B1 submitted 24.04.1996, granted 05.11.2003 (countries: AT, BE, CH/LI, DE, ES, FR, GB, IT, NL, SE)  
USP 5 891 728 submitted 02.05.1996, USP 9,784,753 granted 30.10.2017  
JPP 3 667 439 submitted 07.05.1996, granted 15.04.2005

Test for determining pyrogenic effect of a material

EP 0 851 231 B1 granted 15.12.1997 (countries: AT, BE, CH/LI, DE, ES, FR, GB, IT, NL, SE)  
US CIP 10/761,237 submitted 23.12.1997 granted 06.04.1999  
JP 9-354572 submitted 24.12.1997, granted 04.04.2008