

>NP_003108.2 hyaluronidase PH-20 isoform 1 [Homo sapiens]
MGVLKFKHIFFRSFVKSSGVSQIVFTFLLIPCCCLTLNFRAPPVIPNVPFLWAWNAPSEFC
LGKFDEPLDMSLFSFIGSPRINATGQGVITIFYVDRLGYPPYIDSITGVTVNGGIPQKISL
QDHLDKAKKDITFYMPVDNLGMAVIDWEEWRPTWARNWPKDVKYKRSIELVQQQNVQLS
LTEATEKAKQEFKAGKDFLVETIKLGKLLRPNHLWGYYLFPDCYNHHYKPGYNGSCFN
VEIKRNDLWSLWNESTALYPSIYLNTQQSPVAATLYVRNRVREAIRVSKIPDAKSPLPV
FAYTRIVFTDQVLKFLSQDELVYTFGETVALGASGIVIWGTLSIMRSMKSCLLLDNYMET
ILNPIIINVTLAAKMCSQVLCQEQGVCIRKNWNSSDYHLNPNDFAIQLEKGGKFTVRGK
PTLEDLEQFSEKFCSCYSTLSCKEKADVKTDAVDVCIADGVCIDAFKPPMETEETPQI
FYNASPSTLSATMFI

>XP_003318802.2 hyaluronidase PH-20 isoform X1 [Pan troglodytes]
MGVLKFKHIFFRSFVKSSGVSQIVFTFLLIPCCCLTLNFRAPPVIPNVPFLWAWNAPSEFC
LGKFDEPLDMSLFSFIGSPRINVTGQDVTIFYVDRLGYPPYIDSITGVTVNGGIPQKISL
QDHLDKAKKDITFYMPVDNLGMAVIDWEEWRPTWARNWPKDVKYKRSIELVQQQNVQLS
LTEATEKAKQEFKAGKDFLVETIKLGKLLRPNHLWGYYLFPDCYNHHYKPGYNGSCFN
VEIKRNDLWSLWNESTALYPSIYLNTQQSPVAATLYVRNRVQEAIRVSKIPDAKSPLPV
FVYTRIVFTDQVLKFLSQDELVYTFGETVALGASGIVIWGTLSIMRSMKSCLLLDNYMET
ILNPIIINVTLAAKMCSQVLCQEQGVCIRKNWNSSDYHLNPNDFAIQLEKGGKFTVRGK
PTLEDLEQFSEKFCSCYSTLSCKEKADVKTDAVDVCIADGVCIDAFKPPMETEESQI
FYNASPSTLSATMFIIVSILFLIISSVASL

>XP_003261317.2 hyaluronidase PH-20 [Nomascus leucogenys]
MGVLKFKHIFFRSFVKSSGVSQIVFTFLLIPRCLTLNFRAPPVIPNVPFLWAWNAPSEFC
LGKFDEPLDMSLFSLTGSPRINVTGQGVITIFYVDRLGYPPYIDSITGVTVNGGIPQKISL
QDHLDKAKQDITFYMPVDNLGMAVIDWEEWRPTWARNWPKDVKYKRSIELVQQQNVQLS
LAEATEKAKQEFKAGKDFMVETIKLGKLLRPNHLWGYYLFPDCYNHHYKPGYNGSCFN
VEIKRNDLWSLWNESTALYPSIYLNTQQSPVAATLYVRNRVREAIRVSKIPDAKSPLPV
FVYARIVFTDQVLKFLSRDELVYTLGETVALGASGIVIWGSLSIVRSMKSCLLLDNYMET
ILNPIIINVTLAAKMCSQVLCQEQGVCIRKDWNSDYHLNPNDFAIQLEKGGKFTVRGK
PTPEDLEQFSEKFCSCYSTLSCKERADVKTDAVDVCIADGVCIDAFKPPKETEESQI
FYNASPSTLSATMFIIVSILFLIISSVSL

>XP_001086882.2 hyaluronidase PH-20 [Macaca mulatta]
MGVLKFKHIFFRSFVKSSGVSQIVFTFLLIPCCCLTLNFRAPPVIPNVPFLWAWNAPSEFC
LGKFNEPLDMSLFTLMGSPRINITGQGVITIFYVDRLGYPPYIDLTTGVTVHGGIPQKVSL
QDHLDKSKQDILFYMPVDNLGMAVIDWEEWRPTWARNWPKDVKYKRSIELVQQQNVQLS
LPQATDKAKQEFKAGKDFMLETIKLGRSLRPNHLWGYYLFPDCYNHHYKPGYNGSCFD
VEIKRNDLWSLWNESTALYPSIYLNTQQSVVATLYVRNRVREAIRVSKIPDAKNPLPV
FVYARLVFTDQVLKFLSREELVSTLGETVALGASGIVIWGSLSITRSMKSCLLLDTYMET
ILNPIIINVTLAAKMCSQVLCQEQGVCIRKDWNSDYHLNPNDFDIRLEKGGKFTVHGK
PTVEDLEEFSEKFCSCYTNSCKEKADVKTDAVDVCIADGVCIDASLKPPVETEGSPP
IFYNTSSSTVSTTMFIVIILFLIISSVSL

>NP_001076141.2 hyaluronidase PH-20 precursor [Oryctolagus cuniculus]
MGVLKFKHIFFGSAVEFNRAFQILYIFLLIPCCCLTANFRAPPVIPNVPFLWAWNAPTELC
LGKSGEPLDTSLSLFGSPSKDKTGQGITIFYVDRLGYPPHIDSKNVSVHGGIPQLGPL
QQHLDKAKKDILYMPPTDNVGLAVIDWEEWRPTWLRNWKPKDIYRIKSIELVQQQNPQIN
LTEATKLAKIEFEKAGKCFMEETLKLGRLEFRPNHFWGYYLFPDCYNHNYDKPNYKGCIFD
IEKKRNDLWLWKESTALFPSVYLKSSSQSSPKAALFVRNRVQEAIRVSEVPNAKSPL

PIFVYTRLVFTDKIFQFLSQDDLVTIGEIVALGASGIVVWGSHTLARSMKSCNLNDDYM
KNILNPYLINVTLAAKMCNQVLCQEQGVCTRKNWDSNDYLHLNPGNFAIQIGNNGTYKVD
GKPTLTDLEQFSKNFQCSCYTNLNCKERTDMNNVQTVNVCAVENVCIDTNVGPQAVTYAP
KEKKDVAHILSNTTSINSSTTM

>XP_002919069.1 hyaluronidase PH-20 [Ailuropoda melanoleuca]
MAVLRFRIFFRSFFVSGRATPVVLTFLIPCCLTQEFRAPPFIPNVSFLWGNAPTELC
AQKFNVQLDLNLFSLIGSPQKSATGQGITLFYANRLGYYPHIDEKTGKNVNGGIPQSGNL
KKHLEKAKKDIAYYIQTDSIGLAVIDWENWRPIWVRNWKPKDIYKHQSIELVQQHHIELN
VTEATKIAKADFEKAGKCFMQETLKLKGLSLRPNYLWGYLFPDCYNHNYKPKDYNGSCSD
LEKKRNDLWMMWKESTALFPSIYLNTKLSPPYAALYVRNRVWEAIRISQVSSVKHPL
PIFVYARPVFTDVSLKYLSDDLVTIGETVSLGVSGIIMWGSNLNSQNVQSCTELDNYM
TNTLNPYIINVTLAAKMCNQVLCQEQGVCIKRWNSNDYLHLNPDNFAIQLEKSGRYTVQ
GKPTLEDLQQFSKNFYCSCYANVRCKERVDMTEIHTVKVCVAADVCIDSFL

>NP_999176.1 hyaluronidase PH-20 [Sus scrofa]
MGVQRLQHISFRSFFVPSGAPQVVFTEFLIPCCALDFRASPPIIPNTTFLWVWNAPTESC
AKKFYMPDLSLFSFVTSRASVTGQFLTFYANRLGYYPHVDENTGKNVNGGIPQLGSL
QRHLDKAEKDILHYMQIDKVLGSLVIDWENWRPTWERNWKEKAIYRRQSIELVQQKNIKLT
PAAATKLAKREFEKAGKTFMQETLKLKGLLRPNHLWGYLFPDCYNHNYHKPGYNGSCLD
IEKRRNDALDWLWKESTALFPSIYLNTRLKPSQVALFVRNRVQEAIRVSKVANAQSPPLV
FVYTRPVFSGASSRYLSQDDLVTIGETVALGASGIVMWSLNLSTMQSCMNLGSYLKT
TLNPYLINVTLAAKMCSQVLCQEQGVCTRKHWNSSDYHLNPNANFAIRTGKGNKYIVHGK
PTLEDLKEFSKNFYCSCFANFHCKERADIENIHAINVCITEDVCVEAFL

>XP_002686960.3 hyaluronidase PH-20 [Bos taurus]
MLRHQHISFRNFVGSNGAPQAVFTFLVPCCLALNFTAPPLIPNIPFLWAWNAPTNHCAE
IFSMPPDLGLFSLVSGPQKDVVTGQPITLFYADRLGYYPKINERTGVHKNGGIPQVASLKK
HLDKAEKDIAYYMPIDNVGLAVIDWENWRPTWVRNWKPKDVYKKASIELVLQQRHFTLK
EATKRAKADFEKAASFMQETLKLKGLFLRPNHLWGYLFPDCYNHHYNQANYNGSCFDEE
KRRNDALNWLWKESTALYPSVYLNTKLSPPQARLFVRNRVQEAIRLSKVANVKSPLPVF
VYTRPVFSDMSSKFLSQDDLVTIGESIALGASGIIMWSFNLSLTKQSCMNLSNYLNTI
LNPYIINVTLAAKMCSQVLCHEEGVCTRKHWNSTDYHLNPNMFAIQRKRYGKYTIHGKP
TLEDLLQFSENFYCSCYANIHCCKRDIKNIHTINVCFEADVCINASL

>NP_001008413.3 sperm adhesion molecule 1 precursor [Bos taurus]
MRMLRRHHISFRSFFAGSSGTPQAVFTFLLLPCCLALDFRAPPLISNTSFLWAWNAPVERC
VNRRFQLPPDLRLFSVKGSPQKSATGQFITLFYADRLGYYPHIDEKTGKTVFGGIPQLGN
LKSHLEKAKNDIAYYIPNDSVGLAVIDWENWRPTWVRNWKPKDVYRDESVELVLQKNPQL
SFPEASKIAKVDVFETAGKSFMQETLKLKGLLRPNHLWGYLFPDCYNHNNHQPTYNGNCP
DVEKRRNDLEWLWKESTALFPSVYLNIRLSTQNAALYVRNRVQEAIRLSKIASVESPL
PVFVYARPVFTDGSSTYLSQGDVNSVGEIVSLGASGIIMWGSNLNLSLMSQSCMNLGTYL
NTTLNPYIINVTLAAKMCSQVLCHEEGVCTRKHWNSSDYHLNPNMFAIQTGEGGKYTVP
GTVTLEDLQKFSDTFYCSCYANIHCCKRVDIKNVHVSNNVCAEDICIDSPVKLQPSDHSS
SQEASTTTFSSISPSTTTATV

>XP_003502178.1 hyaluronidase-5-like [Cricetulus griseus]
MRVLCLKHSFSGSFLSNGAPQTVLVFLLPCCLTGDFRAPPLIPNVFPLWVWNAPTESC
LTKFNEPLDLSLFSLVGSPKKSATGQPITIFYTDRLGFYPHIDDSNKS IHGGVPQLGSL
KSHLEKARDDIYQYMPIDNVGLAVIDWEDWRPTWSRNWKPKDIYKHKSIELVKQQNKQLN

ITEATRRAKKDFEQAARSFMEGTLKLGKSLRPNHLWGFYLPDCYNNKFHDLNNGECPD
TEKRRNDGLFWIWKQSTALYPSIYLKTGLKSSQQAVLYVRNRVQEAIRVSKAKDPQSPVP
IFVYSRIVFGDLTYRFLSQKDLVNTIGETVALGASGMVMWGTGLVLRSMKSCNLNLDYLE
NTLNPYLINVTLAAKMCSQTLCDQDGICSRKDWNSDNYLHLSPKNFQIQFVRSKGKYEIRG
NPTLDDLQYFSKNFRCSCYSNLNCKERDDLESVSTVSVCVAVETACINSFV

>NP_001166492.1 hyaluronidase PH-20 precursor [*Cavia porcellus*]
MGAFTFKHSFFGSFVECSGVLQTVFIFLLIPCLADKRAPPLIPNVPLLWVWNAPTEFC
IGGTNQPLDMSFFSIVGTPRKNITGQSITLYYVDRLGYYPYIDPHTGAIVHGGLPQLMNL
QQHLRKSQRDILFYMPTDSVGLAVIDWEWRPTWTRNWRPKDIYRNKSIELVKSQHPQYN
HSYAVAVAKRDFERTGKAFMLETLKLGKSLRPSLWGYLFPDCYNTHFTKPNYDGHCPP
IELQRNNDLQWLWVNDSTALYPSVYLTSSRVSSQNGALYVRNRVHESIRVSKLMDDKNPLP
IYVYIRLVFTDQTTTTLELDDLVHVSVEIVPLGVSGIWIWGSLSLTRSLVSCIGLENYMK
GTLLPYLINVTLAAKMGQVLCCKNQGICTRKDWNTNTYLHLNATNFDIELQQNGKFVVHG
KPSLEDLQEFKSNFHCSCYTNVACKDRLDVHNVRVNVCTANNICIDAVLNFPSLDDDDDE
PPI

>NP_001019492.1 hyaluronidase PH-20 [*Rattus norvegicus*]
MRVLCFKHSFFGSLESSLGQLTLLVFLIRCLTVDFRAPPLIPNVPLCAWVWVNVVPTESC
ATRFNQPLDLSLFSLVGSPRKTAIHPVTIFYSDRGLYPHIDEMHTAFHGGIPQLGSL
KSHLEIAKGDIIHHYMPIDNVGLAVIDWEDWRPTWSRNWKFCDIYRNKSIQVQQNTQLN
L TEAVKRAKQEFEEAARNFMEQTLKLGKLLRPNHLWGFYLPDCYNNNFQDANYKGDPCPD
IEKQRNDALFWIWKESTALYPSIYLKSSSLKSSPLAALYVRNRVQEAIRMSKVKDPHNPL
PIFVYFRPVFTDLTFQYLEQDDLNTIGETVALGASGIVMWGTNLNSQTMKSCMNLHDYL
KTTLNPIYINVTLAAKMCSQTLQCNQGICSRKDWNSDNYLHLSPRNFQIHFIFKHKGYEII
GSPTLDDLQYFSKNFRCSCFSLNLDCKERVDINHVSrvNVCTLEDICINSLV

>XP_001507937.2 hyaluronidase PH-20 [*Ornithorhynchus anatinus*]
RLPHLSSGSWAVCCQASWVAVVLQLLPWCALDIQAPPMIPNLPFLSAWVWVNVVPTESC
DVELDMSLFSLVGSTRQEIKGQNTLFTYTDRLGYYPYIDEVTVGKSVNTGLPQLCPLDLHL
TKAKEDIVNYPMPAEKSGLAVIDWENWRPLWIRNWKPKDIYRNRSIELVQKQDVTLNFSE
AWNIAKVDFEKAARNFMQSLKLGKTLRPNRLWGFYLPDCYNHNYKSPNYNGSCFDIEK
ARNDLQWLWKESTALFPSIYLDTGLRNSGYAPLFVRNRVQEAIRVSKVADPLNPLPIFV
YTRPVFTNAPSNYLSQIDLNTIGECAALGVSGTVMWGSNLNLSVKTICRILDNYMRMTL
NPYIINVTLAAKMCSQVLCCEERGACVRKAWNSDYHLNPNANFVIHTTEDGRYLVNGKPT
YADLKQFSKKTFCRCFAGSSCKTVMVNTTTSFIYVCIADDICIEADLNSNLSEEDFS
NSS

>NP_001073344.1 hyaluronidase PH-20 precursor [*Mus musculus*]
MGELEFRKHLFWGSFVESGGTFQTVLIFLLIPCSLTVDYRAAPILSNTTFLWIWVNVPTERC
VGNVNDPIDLSFFSLIGSPRKTATGQPVTLFYVDRLGLYPHIDANQAEHYGGIPQRGDY
QAHLRKAKTDIEHYIPDDKLGLAIIIDWEWRPTWLRNWKPKDNYRNKSIELVQSTNPGLS
ITEATQKAIQQFEEAGRKFMEGTLHLGKFLRPNQLWGYLFPDCYNNKFQDPKYDGQCPA
VEKRNNDNLKWLWKAAGTGLYPSVYLLKDLKSNRQATLYVRYRVEAIRVSKVGNASDPVP
IFVYIRLVFTDRTSEYLLLEDDLNTIGEIVALGTSGIWDAMSLAQRAGCPILHKYMQ
TTLNPYIINVTLAAKMCSQTLKNEKGMCSRREKSSDYLHLSHFDIMLTETGKYEVLG
NPRVGDLEYFSEHFKCSCFSRMTCKETSVDKNVQDVNVVCGDNVCIKAKVEP

>XP_003502177.1 hyaluronidase PH-20 [*Cricetulus griseus*]
MGGLPLKHLFWGSFVVSRAFQTVLIIFLLIPCSLTVDYRGGPLLSEILIWVNVVPTEA

CIGNFSHSIDLSPFIVGSPRKTATGQPVTLFYVDRLGYYPHLDTKLAEHGGIPQLGN
LKNHLDKSKTDIEHYIPVDKFLAVIDWEWRPTWMRNWKPKDVYRNKSIALVQANNAGI
SIEDATQKAKDEFETAGRHFMEETLKLKGSVRPRHLWGYYLFPDCYNNKFQDPKYDGNCP
PVEKQRNDALSWMWKESTGLYPSVYLKLDLGSNRQAALYVRYRVVESVRVSKVRSEKDPV
PIFVYIRLVFTDNTSEYLQEVDLVNTIGEIVALGPAGIIWDAMSLAQRAPGCPILHQYL
KTTLNPIIINVTLAAKMCSQTLCEEKGVCSKKNESDVYLHLNPSQFYIELTKTGTVEVH
GYPRVADLQYFSEHFQCSCFTNMDCQETPDIEDIMDVNVCIGDNICIKAEVEP

>XP_002190553.4 hyaluronidase PH-20 [Taeniopygia guttata]
ASGVVFATLLVSCSSLNIRARPLLSNSPFLSIWNAPTELCTERTGVQLDMNFFPLIGST
LKTSVGQINITLYFPDRIGYYPYKNEITGEAFNGGLPQLSLENHLKKAREDIQFYIPSDE
QLGLAVIDWENWRPVWIRNWGSKDIYRQESIELVQQRDLSISEAESRTIAKMEFEFAAKS
FMLETLLKGIETKPNRLWGYYLYPDCYNYDYKQNPHTYTGACLDIEIERNNELNWLWEKS
TALYPSIYLETALKSSRNAQLFVRNRVQEAIRTSYVANSSHPLPVFVYTRPVFTDVYEEY
LSEDDLVTIGESAALGASGIVIWGDMNLTQNKNTCRTLDNLRRTLTPYLINVTMAARI
CSQVLCQDSGACARKKWNSSDYHLHNPENIAIQMTKDGKYLQGGQPSYQDLQTFIEKFC
HCYAGHSCEPRADINDIHYLHACISEDICI

>XP_002932242.3 hyaluronidase PH-20 [Xenopus tropicalis]
MERNVCEHILYKLLCFLIHTCQSMKAPTNGPANFMAIWNAPTELC
MRKFVKNIDISLFQITGSPESSIAQNITIFYTDRLGYPSINETNGKITNGGIPQLTNM
DFHLKVKVEDIEYYLPYSKQNGLAVIDWEDWRPIWIRNWASKAVYKMNSIEFARQMDITM
THKKAALIAEAQFESAAQNFMQLTLRLGKAMRPNYLWGFYLPNCYNYHYKSNPKQYKGH
CPEVEIQRNKHLHLWKESTALFPNVYLEVALKSSNNAVMFARHRIQEARRLSSLSKF
TLPIYVYTRPVFTDQPKFLSEVDLANVIGEIAALGADGFVMWGEIKNMTQSKKTCTDLN
SYLVKILNPIIINVTLAAKLCSHVLCQDNGLCTRKNWNTNTYLHLNSNTLAIEQKNGKY
TIKGHATHEDLTYFSKHQCHCNAGRKCKETFNLKNIGLVNVCLPNSNICVKA

>NP_001082194.1 sperm adhesion molecule 1 (PH-20 hyaluronidase, zona pellucida
binding) L homeolog [Xenopus laevis]
FQHVLCCKKICILLFCFITSCQSMKAPTNGLSNFMAIWNAPTELCCLQKF
KVKIDVSLFQIVGTTFNSSIAQNITIFYTDRLGHYPSINETNGKISKGGIPQLTNMAFHL
KKAKEDIEYYLPSSKQHGLAVIDWEWRPLYTRNWASKAVYKQKQIEFAQQMDITMTHKK
AVGIAAAQFESAANKLMLLETLLKLGKTMRPNYLWGFYLPNCYNYHYKSNPKQYTGHCPL
EIQRNDKHLHLWKESTALFPNIYLEVALKSSSNAALFARHRIQEARRLSTFSKYAVPI
YVYTRPVFTNRPEFLSEVDLANVIGEIAALGADGFVMWGDVINMTQSKKACTDLNSYLL
KILNPIIINVTLAAKLCSHVLCQDNGLCTRKHWDNTNTYLHLNSKTLAIEQKNGKYTVG
NPTYEDLTYFSKNFKCLCYAGRTCKELIHLQIIGLVNICLPKSNICIKA

>XP_002919077.1 hyaluronidase-4 [Ailuropoda melanoleuca]
MKVLSEGQLRFCVWQPIHLTSCLVIFIIILKSISSLKPARLPYQRPFIAAWNAPTDQC
LIKYNIGLNLKMFQVIGSPLAKARGQNVITIFYVNRLLGYYPWYTSQGVPIINGGLPQNISL
QVHLEKADQDINYYIPAEDFSGLAVIDWEYWRPQWARNWNTKDVYRQKSRKLISDMQENI
SATDIEDLAKETFEESAKAFMKETIELGMKSRPKGLWGYYLYPDCHNYNVYAPNYTGSCP
EEEVLRNNELSWLWNSSTALYPSIGVRKSLGDNENILRFSQFRVHESMRISTMTSHDYAL
PVFVYTRLGYRNEPLFFLSKQDLISTIGESAALGAAGIVIWGDMNLTSSSEGNCTKVKQYV
SSDLGSYIVNVTKAAEVCSLHLRNRNGRKRKVKAPDYHLNLPASYHIEASQDGEFTVQ
GKASDTDLKAMEEKFSCHCYQGYEGADCRGKKTADGC

>XP_002712114.1 hyaluronidase-4 [Oryctolagus cuniculus]

PIYQRKPFIAAWNAPTDQCLMKYNLKLNLKMFQVIGSPLAKARGQNVTIFYVNRLGYYPW
YTSEGVPINGGLPQNISLQVHLEKADQDINYYIPAEDFSGLAVIDWEYWRPQWARNWNT
KDVYRQKSRKLISDMQANVSATDIEYLAKATFEESAKAFMKETLKLGIKSRPKGLWGYYL
YPDCHNYNIYAPNYTGSCPEEEVLRNNELSWLWNSSAALYPSIGVRKALGDSENI LRFSQ
FRVHESLRVSTMTSHNCSLPVFVYTRLGYRDEPLFFLSKQDLISTIGESAALGAAGIVIW
GDMNLTSSKGNCTKVKQFVGSDDLGRYIVNVTRAAEVCSLHLCRNNGRCIRKMWRAPDY LH
LNPA SFHIAASEDEGEFIVKGVSDTDLAVMAEKFSCHCYQGYEGADCREMKTV DGC

>XP_532444.4 LOW QUALITY PROTEIN: hyaluronidase-4 [Canis lupus familiaris]
LLIFFILKSISSLKPARLPYQRKPFIAAWNAPTDQCLIKYNIGLNLKMFQVIGSPLAKA
RGQNITIFYVNRLGYYPWYTSQGVPI NGGLPQNISLQVHLEKADQDINYYIPAEDFNGL
AVIDWEYWRPQWARNWNTKDVYRQKSRKLISDMQENVSATDIEYLAKATFEESAKAFMKE
TIELGIKSRPKGLWGYYLYPDCHNYNVYAPNYTGSCPEEEVLRNNELSWLWNSSAALYPS
IGVRKSL EDNENILRFSRFRVHESLRISTMTSHDYALPIFVYTRLGYRNEPLFFLSKQDL
ISTIGESAALGAAGIVIW GDMNLTSSSEGNCTKVKQYVSSDLGHYIVNVTRAAEVCSIHLC
RSNGRCIRKVMKAPDY LHLNPASYHIEASKDGEFIVK GKASDMDLEALEESFSCHCYQGY
EGADCRGKTADGC

>XP_002818436.2 hyaluronidase-4 [Pongo abelii]
PIYQRKPFIAAWNAPTDQCLIKYNLRLNLKIFPVI GSP LAKARGQNVTIFYVNRLGYYPW
YTSQGVPI NGGLPQNISLQAHLEKADQDINYYIPAEDFSGLAVIDWEYWRPQWARNWNA
KDVYRQKSRKLISDMGKNVSATDIEYLAKVTFEESAKAFMKETIKLGIKSRPKGLWGYYL
YPDCHNYNVYAPNYTGSCPEDEVLRNNELSWLWNSSAALYPSIGVWKS LGDSENI LRFSK
FRVHESMRISTMTSHDYALPVFVYTRLGYRDEPLFFLSKQDLVSTIGESAALGAAGIVIW
GDMNLTSSKANCTKVKQFVSSDLGSYIANVTRAAEVCSLHLCRNNGRCIRKMWNAPS YLH
LNPTS YHIEAAEDGEFTVK GKASD TDLAVMADTF S CHCYQGYEGADCRETKTADGC

>NP_084124.1 hyaluronidase-4 [Mus musculus]
PVYQRKPFIAAWNAPTDLCLIKYNLTLNLKVFQMVGSPRLKDRGQNVVIFYANRLGYYPW
YTSEGVPINGGLPQNTSLQVHLKAAQDINYYIPSENFSGLAVIDWEYWRPQWARNWNT
KDIYRQKSRTLISDMKENISAADIEYSAKATFEKSAKAFMEETIKLGSKSRPKGLWGYYL
YPDCHNYNVYATNYTGSCPEEEVLRNNDLSWLWNSSALYPAVSIRKSFADSENTLHFSR
FRVRESLRISTMTSQDYALPVFVYTQLGYKEEPLFFLSKQDLISTIGESAALGAAGIVVW
GDMNLTSSSEENCTKVNRFVNSDFGSYIINVTRAAEVCSRHLCKNNGRCVRKTWKA AHYLH
LNPA SYHIEASEDEGEFIVRGRASD TDLAVMAENFLCHCYEGYEGADCRE

>XP_003134772.2 hyaluronidase-4 isoform X2 [Sus scrofa]
LLIFFILKSISSLKPARLPVYQRKPFIAAWNAPTDQCLIKYNVRLNLKMFQVIGSPLARA
RGQNVTIFYVNRLGYYPWYTAQGVPI NGGLPQNISLQVHLEKADQDINYYIPSEDFSGL
AVIDWEYWRPQWARNWNTKDVYRQKSRKLISELQENVSMADIEYLAKTTFEESAKAFMKE
TIELGIKSRPKGLWGYYLYPDCHNYNVYAPNYTGSCPEEEVLRNNELSWLWNSSAALYPS
ISVRKSLGDSENTLRFSQFRVHESMRISTVTS HGYALPVFVYTRLGYRDQPLFFLSKQDL
ISTIGESAALGAAGFVIW GDMNLTSSSEGNCTKVKQFVSSDLGHYVNVTRAAEVCSLHLC
RNNGRCLRKVMKAPDY LHLNPASYRIEASEDEGEFTVKGRASDRDLAVLVERFSCHCYQGY
EGTDCREMKRADGC

>NP_036401.2 hyaluronidase-4 [Homo sapiens]
PIYQRKPFIAAWNAPTDQCLIKYNLRLNLKMFVIGSPLAKARGQNVTIFYVNRLGYYPW
YTSQGVPI NGGLPQNISLQVHLEKADQDINYYIPAEDFSGLAVIDWEYWRPQWARNWNS
KDVYRQKSRKLISDMGKNVSATDIEYLAKVTFEESAKAFMKETIKLGIKSRPKGLWGYYL

YPDCHNYNVYAPNYSGSCPEDEVLRNNELSWLWNSSAALYPSIGVWKS LGDSENILRFSK
FRVHESMRISTMTSHDYALPVFVYTRLGYRDEPLFFLSKQDLVSTIGESAALGAAGIVIW
GDMNLTASKANCTKVQFVSSDLGSYIANVTRAAEVCSLHLCRNNGRCIRKMWNAPSYLH
LNPASYHIEASEEDGEFTVKGKASDTDLAVMADTF SCHCYQGYEGADCREIKTADGC

>XP_003261316.2 hyaluronidase-4 [Nomascus leucogenys]
MKVLSEGLRLRCVVPVHLT SWLLIFFILKSISCLKPAQLPIYQRKPFIAAWNAPTDQC
LIKYNLRLNLKMFVIGSPLAKARGQNV TIFYVNRLGYYPWYTSQGVPI NGGLPQNISL
QVHLEKADQDINYYIPSEDFSGLAVIDWEYWRPQWARNWNAKD VYRQKSRKLISDMGRNV
SATDIEYLAKVTFEESAKAFMKETIKLGIKSRPKGLWGYYLYPDCHNYNVYAPNYTGSCP
EEEVLRNNELSWLWNSSAALYPSIGVWKS LGDSENILRFSKFRVHESMRISTMTSHDYAL
PVFVYTRLGYRDEPLFFLSKQDLVSTIGESAALGAAGIVIW GDMNLTSSKANCTKVQFV
NSDLGSYIANVTRAAEVCSLHLCRNNGRCIRKMWNAPSYLHLNPASYHIEASEEDGEFTVK
GKASDTDLAVMADTF SCHCYQGYEGPDCREIKTADGC

>XP_003407292.1 hyaluronidase-4 [Loxodonta africana]
SSWLLIFFILKSISLKPAPLPYIYQRKPFIAAWNAPTDQCLIKYNIRLNLKMFQVVGSP
AKARGQNV TIFYVNRLGYYPWYTSQGVPI NGGLPQNISLQVHLEKADQDINYYIPAEDF
SGLAVIDWEYWRPQWARNWNAKNVYRQKSRKL ISETQENVSATDIEYLAKATFEESAKAF
MKETIKLGIKSRPKGLWGYYLYPDCHNYNVYAPNYTGSCP EEEVLRNNELSWLWNSSAAL
YPSIGVRKSLGDSENILHFSQFRVHESMRVSAMTSHDYTL PVFVYTRLGYRDQPLFFLSK
QDLISTIGESAALGAAGIVIWGDNLNLT SSEGNCTKVQFVSSDLGYYIVNVTGAAEVCSR
HLCGNNGRCVRRRWKAPDYLHLNPASYHIRASEDGDITVTGAASDTDLEVMAEKFSCHCY
QGYK GADCRAMKTPDG

>XP_003586042.1 hyaluronidase-4 [Bos taurus]
LFILFILKSISLKPAPLPVYQRKPFIAAWNAPTDQCLIKYNIRLNLKMFQVIGSPLARA
RGQNV TIFYVNRLGYYPWYTPQGVPI NGGLPQNISLQVHLEKADQDIRYYIPSEDFSG
LAVIDWEYWRPQWARNWNTKDIYRQKSRKL ISETQENASAADIEYLAKATFEESAKAFME
TIELGIKSRPKGLWGYYLYPDCHNYNVYGPNYTGSCP EEEVLRNNELSWLWNISAALYPS
IGVRRSLGDSENVLRFSQFRVHESMRISIMTSRDHALPVFVYTRLGYRDQPLFFLSKQDL
ISTIGESAALGAAGIVIW GDMNLTSSKGNCTKVQFVSSDLGSYIVNVTTRAAEVCSLHVC
RNNGRCIRKVKMPDYLHLNPASYHIEASEEDGEFTVKGRASDTDLAVLAERFSCHCYQGY
QGADCREMKTADGC

>NP_001094250.1 hyaluronidase-4 [Rattus norvegicus]
RCVVQPVHLTSGLLIFFILKSISLKPAPLPVYQRKPFIAAWNAPTDLCLIKYNLAVNLK
VFQMVGSPRLKDRRQNVVIFYANKLGSYPWYTSQGVPI NGGLPQNTSLQVHLEKAYQDI
NYYIPSENFSGLAVIDWEYWRPQWARNWNTKDIYRQKSR TLI SDMKENISTADIEYLAKA
TFEKSAKAFMEETIKLGIKSRPKGFWGYYLYPDCHNYNFYATNYTGSCP EEEVLRNNDLS
WLWNSSTALYPAVSIRKSFADSENTLHFSQFRVRESLRISTMTSHDYALPVFVYTRLGYK
EEPLLFFLSKQDLISTIGESAALGAAGIVVWGDMNLTSSAENCTKVNRVNSDFGSYVINV
TTAAEVCSRHLCKNNGRCARKTWKAAHYLHLNPASYHIEASADREFVVKGRASDADLAAM
AENFLCHCYEGYEGADCRD

>XP_003221368.2 hyaluronidase-4 [Anolis carolinensis]
PISRRKPFIAAWNAPTDHCSIRYNVTINLKM FHVIGSPFAKARGQNV TIFYVNRLGYYPW
YTSQDVPVNGGLPQNFSLQTHLEKASEDINYYIPDEDF TGLAVIDWEHWRPQWERNWNT
KNIYRRQSRKLISAMQONVSTNALEHLAKFSFEQCAKAFMKETIELGIKSRPKGLWGYYL
YPDCHNYNFHDQNYTGSCP ESEVLRNNELSWLWNSSAALYPSIGIKKFLGENSENILRFSQ

FRVNESIRISFMTSHDYALPVFVYTRLDIRDEPLLFLSTQDLVSTIGESAALGAAGI
VIWGMNLTSSSEVNCTKVQFIASELGVYIVNVTKAAEVCSWHL CQNNGR CIRRNWKALN
YLHLNPRNFQIEISEDQGFVTRGEASSADLQIMTEKFTCHCYQGFEGENCKKIQTVDG

>XP_003475093.1 hyaluronidase-4 [*Cavia porcellus*]
IQSIHLTPWLLVFLSLKSVCSLKPAPLPLYQRKPFIAAWNTPTDQCLMKYKLRRLNLEMFQ
VAGSTLTKARGQNVITIFYPRRLGYYPWYTSQGVPIINGGLPQNTSLKVHLKKVDQDIKYY
IPVKDFRGLAVIDWEYWRPQWDRNWNNAKDVYRRKSKELIFDLQQNVKASDIEYLAKAT
FEESAKAFMIETIKLGIKRRPKGLWGYLYPDCCHNYMDDPSYTGSCPEEEVLKNNELSW
LWDSSTALYPSVVIKSLRNSENVLHFSKFRVQEAMRISTMTSHKYALPVFVYTRLGYRE
DPLFFLSQDLINTIGESAALGAAGI VIWGMNLT LSEDNCTKVQFVSSDLGSYIVNVS
TAAEICSLHL CRSNGRCVRKMWNASDY LHL SNKSYRIETSGNGGFTAKGNVSDADLIVMK
QKFFCQCYQGHEGAN CQEMKEVDGSTGLSSC

>NP_001090796.1 hyaluronidase-4 [*Xenopus tropicalis*]
PFIQNKPF LAVW NAPTEQCKQRYKVDL DLSIFDIVANPNETLIGSNVTIFYHHLGHYPY
FTDEGEPVNGGVPQNESLKKHLNKSEHDINRLIPNLDFKGLGVVDWENWRPQWDRNWGS
KLIYRNKSIELVKNHHTWSDEQLKKKAKEEFDNAAKEFMKTIALAQEKRSKGLWGYLY
FPDCYNYDYKENPQSYTGRCPDIEMTRNDLLKWLWKESNALYPSIYLDYVLKSSPNVLKF
VHHRVKESMRVAMARKDYSLPVFVYSRPFYSYTYLTLSEADLIYTIIGESAALGAAGIV
LWGGMQYASTKESCITVKKYIDGPLGHYLVNVTAAAKMCSKVLCKKNGRCLRNNIDSPDY
LHLNPNHF KIKKHFSGKGF FATGKPGWEDIHYMEQR FMCQCY

>XP_003221369.1 hyaluronidase [*Anolis carolinensis*]
PLFPNKA FVVVW NAPTEQCR LRYD VDL DLNVFNVLSNPNETLSGPTVTIFYHTRLGYYPY
FNDNGDSINGGIPQNSI IKHLNKA KSDIDHFITMKKFQGLGVIDWENWRPQWDRNWGN
KTIYKNKSL ELVRRRHPHPKNAVHKA AKEEFENAGKNFMNSTLSLAENMRPSGLWGYLY
YPDCYNYDYKTDSNTYTGKCPDIASSRNDLLLWLWKESTALYPSIYLDKRLKSSPNSLKF
VHYRVKEAIRIASIARKDYALPVFVYSRPFYAYTFQALTEIDL VHTIGESAALGAAGVV
LWGSIQYANSYENCLTVKKYIDGPLGHYIMNVTSAAKLCSKVLCKKNGR CIRKNSE SFDY
LHLHPQSFKIRFSKTANKVSVVGKMKRDKKAMKEK FMCQCYQGWTKG

>XP_003449274.1 hyaluronidase-4 [*Oreochromis niloticus*]
PLIGRKPFI AAWNAPLDLCTFRY NITTNVNL FHIQGS PRADWTGQNV TIFYANRLGYYPY
HYTPHGKAVFGGLPQNC SLDRHLFKAYQDINHFI PAEDFRGLAVIDWEFWRPQWSRNWH
KKDIYRRKSKELTKKAYINVTAAQVEELARRRFEKSAKIFMLKTIQLGRQLRPSALWGFY
LYPDCCHNYNLHDQNYTGFCPLLERL RNDELVLWLNSSMALYPSVTIRKHHSNSISNLHFT
QHRIRESLRVASLTSKEYDLPTYVYLRLGYRDEALNFLT TDDL IHTIGESAALGAAGFVI
WGDLNL TSSRH NCTHVKSFLSHRLGLYITNVTRAAEICSEFLCQSNGR CVRRDPHARHYL
HLSADSYRIHPSGDGDFAVNGWHPHEQQLLMERFRCHCYEGHNGENCD SINKV
REDKGPWEEEE

>NP_001074140.1 hyaluronoglucosaminidase 6 [*Danio rerio*]
PLLPHRPFVVVW NAPTESCRLRFKVDL DLSVFDIVANHNETLSGPNVTIFYHSHLGYYPY
YTSSETPINGGLPQNSLSKHL SKARADIDKLIPIKDFHGLGVIDWENWRPQWVRNWGS
KDIYRNKSKELIRKLHPGWQSKVENEAKEVFERAGQVFMNSTLLLAESRRPHGLWGFYL
FPDCYNYGYKQHPFRYTGEC PNIEHVRNDHMLWMLWKESTALYPSIYLDCELKSSNTNPKF
VHYRVKEAMRIAS IARNDYTL PVFVYSRPFYAYTFVVLSESDLVHTIGESAALGAAGVV
LWGSSEYARSQRNCLTVKKYIDGPLGHYVINVTSAAKLCSKALCKKNGKCVRKS LDSGAY
LHLNPRFFNI RNLNQGIRGPCFVYVSGHLNLDI LDMKQKFTCQCY

>XP_003217669.1 hyaluronidase-2 [*Anolis carolinensis*]
PIFTRRPFIVAWNVPSQDCQPRFKVQLDFSIFDLQASPNEGFVDQNLTIFYKERLGLYPY
YNAQKVAVNGGVPQNSSLEEHLARLAVSISRIRSEIKEGLAVIDWEEWRPIWIRNWQP
KDIYRIASRQLVLSRHVELSEDQVKKKAQYEFESSASSFMKETLRVAKSFRPQQLWGYL
FPDCYNHDYSKNLDSYTGHCPCDVEKTRNDHLAWLWKESTALYPSIYLEEVLANSINGRKF
VRSRVQEALRISRQHHDDYDLPVVFVYTRPTYNRRQNLTYLSEMDLISTIGESAALGAAGA
IFWGD AEDTKSRETQVLKNYMKENLGRYIVNVTTAADLCSQSQCNHGRCRRRQNDANV
FLHLNPTS FQILHNDPGSQAPLLEARGKLSQEDIDFLQHN FQCHCYQGWRGEGCEEQ

>XP_001507903.3 hyaluronidase-4 [*Ornithorhynchus anatinus*]
LSWLLISFLELTSSLKPAQHPIFQKKPFVAVWNAPTQCLFQYNTGINLRTFHITGSP
LAKARGQNVTIFFVNRLGYYPWYNAQEDPINGGLPQNASLQTHLIKANQDIRHYISAED
FRGLAMIEWEYWRPQWSCNWNNAKDVYRRNSRQLISERLRNLSDNSLEHSAKVSFEESAKA
FMKETIELGMRNRPRALWGYLYPDCHSYNFHEQNYTGSCPEDEVLRNNEFLWLWSSAA
LYPSISVQKALRNSKNLWLFWSFRVNESLRISTMMSCDYALPVFVYTRLGYRDAPLTFLS
KHDLISTIGESAALGAAGIVIWGMNLTSSSEGNCTKVKKFVTSHLGNYLINVTTAAEECS
RHHCGNNGRCTRKAWNAHDYLHLNPQSYIEASENEEFMVKGKASGTDSEVMEEKFSCHC
Y

>XP_003449275.2 hyaluronidase [*Oreochromis niloticus*]
PPLIPHKPFVVVWNAPTESCRLRFKVDLDSIFDIVANLNETLSGPNVTIFYHSHLGYYP
YYSNSGIPINGGLPQNSISKHLGKARSDIDKLIPHKDFRGLGVIDWENWRPQWVRNWG
SKDIYRKRSREQIRKLHPNWPEKVEKEAKEGFERAGQAFMNLTLALAQRPRPGGLWGFY
LFPDCYNYGKQHPQHYTGECPNVEHVRNDHLIWLWKESALYPSIYLDYELKSSSNTVK
FVHYRVEAMRIASIARTDFTLPVVFVYSRPFYAYTFVVLSESDLIHTIGESAALGASGV
VLWGSSEYARSQRNCLTVKKYINGPLGHYVINVTSAAKLCSKALCKKNGRCIRKSLDSDT
YLHLNSRFFHIIHNSAPSGPRFHISGHLNNHDILDMKQKFTCQCY

>XP_001378617.3 hyaluronidase-2 [*Monodelphis domestica*]
APPIFTRRPFVAVWNAPTQDCWPRFRVSLNFSVFDVKASPNEGFVNQNLTIFYRDRLGYY
PYHDSHLRPVHGGVPQSSLAEHLARLQEGIGKYIRSATSEGLAVIDWEDWRPVWIRNW
QSKDVYRKVSRQLVSLRHPTWSQE QVGKQAQYEF EFAARQFMLET LRWAKETRPRQLWGF
YLFPCYNHDYVQNWSSYTGRCPCDVEVSRNDQLAWLWAESSALYPSIYLDPMLKSSSNCR
KFVRSRVEEALRVAREHHAGYSLPVFVYTRPTYTQSFTV LSEMDLISTIGESAALGAAG
IIFWGDAYYTKSPETCQKIKEYLESRLAPYLVNVSEAAALRCSQDLCHGHGRCYRRQPGSN
AFLHLNPQSFRLRPAESPEEPLFRAEQQFSPNDLAQLREHFQCQCY

>XP_003210019.2 hyaluronidase-2, partial [*Meleagris gallopavo*]
AAPLLTRRPFVAVWNAPTQDCWPRFQVALDFSIFDLHASPNEG FVDQNLTIFYKERLGLY
PYYNKRWEVNGGVPQSSLAEHLARLQEGIGKYIRSATSEGLAVIDWEEWRPIWMRNW
KPKDVYQEVSRRELVKQKQPFWSPEEVNKQAVFEFESAARQFMVRTLRVAKSFRPKQLWGY
YLFPCYNHDYSKNKESYTGQCPDVEKTRNDQLAWLWNESSLALYPSIYLDPLLAST
PNSRKFVRARVMEAMRISQQHHEGYSLPVVFVYTRPTYSRKMDVLSQPDLISTIGESAAL
GAAGVIFWGDVEYTKNRESCQTIKDMEGDLGRYIVNVTTAAQH CSTTLCQGGRCRLRKN
STANVFLHLNPATFQLQHRDKEQPERPLIWAKGHL SHTDIHFLQIHFRCHCYQG WQGNSC
QQA

>XP_414258.3 hyaluronidase-2 isoform X1 [*Gallus gallus*]
LVPVAVLAVLARQSPEKPSAAPLLTRRPFVAVWNAPTQDCWPRFQVALDFSIFDLQASPNE

GFVDQNLTIIFYKERLGLYPYNNKQGKPVNGGVPQKSSLAEHLARLQENIGKYIRSATSE
GLAVIDWEEWRPIWMRNWKPKDVYQEVSRELVEQRQPFWSPEKVNKQAVFESAAARHFM
VTTLR YAKSFRPKQLWGYLLFPDCYNHDYSKNKESYTGQCPDVEKTRNDQLAWLWNESMA
LYPSIYLDPLLASTPNSRKVFRARVMEAMRISQQHHEGYS LPVFVYTRPTYSRKM
DVLSPDLISTIGESAALGAAGVIFWGDVEYTKNRESCQTIKDYMEDLGRYIVNVTAA
QHCSITLCHGQGRCKRRNSTANVFLHLN PATFQLQRRDEEQQRPLI WAKGHL SHTDVHF
LQTHFRCHCYQG WQGN SCQOSA

>NP_001080777.1 hyaluronidase 2 S homeolog precursor [Xenopus laevis]
PVFTRRPFIIAWNAPTQDCPPRFNVHLDLKLFDLNASPNEGFDQNLTIIFYKERLGMYPY
YDEHGAPVSGGLPQNASLRAHLDKLPDGIQKYIRSRDKDGLAVIDWEEWRPIWVRNWQN
KNVYRNNRNLSVASRHPSPREQVEKEALYDFENAAREFMETLRHAKNYRPRQLWGFYL
FPDCYNHDYNKNRDSYTGCPDVEISRNDQLSWLWEESTALYPSIYLDQILASSENGRKF
VRSRVREAMRISYRHHKDYS LPVFVYTRPTYIRKLDLFSQMDLISTIGESAAQGAAGVI
FWGDAEYTKSKETCQMIKRYLEEDLGRYIVNVTAAELCSQSLCNGNGRCLRQDNITDAF
LHLNSANFQIVSAPKDSQGPSLRAEGKLSAEDI AVLRSQFRCQCY

>NP_001119986.1 hyaluronidase-2 precursor [Xenopus tropicalis]
LSFLPAFLWFLFGAAANGQLSDSWLNKPTFRPVFTRRPFIIAWNAPTQDCPPR
FNVHLDLKLFDLNASPNEGFDQNLTIIFYKERLGMYPYDEHLAPVAGGLPQNASLRAH
LDKLEGIQKYIRSRDKDGLAVIDWEEWRPIWVRNWQNKD VYRQNSRNLVSSRHPTWPRE
KVDKEALYEFENAAREFMETLRHAKNYRPRQLWGFYLFPCYNHDYVKNRDSYTGQCPD
VEISRNDQLSWLWEESTALYPSIYLDQILASSENGRKFVRSRVREAMRISYRHHKDYS LP
VFVYTRPTYIRKLDLFSQMDLISTIGESAAQGAAGVIFWGDAEYTKSKETCQMIKKYLD
EDLGHYIVNVTAAELCSQSLCNGNGRCLRQENNTDAFLHLN PANFQIVSAPKDFQGPSL
RAEGKLSAGDIATLRSQFRCQCY

>XP_003221370.3 hyaluronidase-1 [Anolis carolinensis]
FMLVDGSTAMPTRAPLFSKKAFVWWNAPTEQCRLRYSVDL DLKIFNILSNPNESLNGP
IVTIFYANRLGFYPHFNDSDGSVNGGIPQKESIIMHLIKASLDIDHSITMKTFFQLGVI
DWENWRPQWDRAWGRKNIYRDASLELVRKRHPHPEDA IKKTARKEFENAGRNFMTTLLS
LVKKLRPNGLWGYLLYPCYNNDYKIKNKIYTGKCPDLEYSRNDLLFWLWKASTALFPSI
YLEYMLKSSSTNALKFVHYRVEAMRIASIARKDYALPVFVYSRPFYAYTFEPLSEIDL V
HTIGESAALGAAGVILWGS MQYASTYKNCLTVKKYIDGPF GHYIVNVTAAANLCSEVLCT
KNGRCIRKDSSEFDYLHLNPRSFKIRYSKTMKKVYVAGSMKREDKEAMEEK FMCQCYQGW
S

>XP_003448364.1 hyaluronidase-2 [Oreochromis niloticus]
LLIVPLWDCLFALGLKPTRWPLYSRKPLLLAWNAPIEDCAPRHKIRFQLDQFQIVATPNE
GFVNQNLTIIFYKERLGLYPYFEQDETPVNGGLPQVASRTRHLEKMPEDVKKYIRSEWAT
GLAVIDWEDWRPLWIRNWE PKHIYRRHSEELVRQKNPTWTS DRVKRVAQQEFEMSARLFM
LDTLKQAKNLRPNQLWGFYLFPCYNHNYMHTLESYTGRC PDVEESRNDQLKWLWTESTA
LFPSIYMSSLLRSSASGRQFVRNRVKEGMRLASSGDGLARPVFVYTRPTYMNSLEQLT
ETDLVSTIGESVALGAAGIIMWGD IAYAHNKTTCSDLDKYLRGT LNQYLLNVSTAAELCS
QTLCGSHGRCLRRNPNSDVYLLHLNPL THGIVEKNGKLVTVTGELGKAGGLGFEADFQCQC
YS

>XP_002189602.4 hyaluronidase-1 [Taeniopygia guttata]
PVLVNRPFVTIWNIPTECAEKYNNVSLSEVFDV LANDQQSF TGQDITL FYSKIGLFPY
YTSGGVPVNGGLPQNASLEAHIQQATQDIKVT LHSPDYSGLAVIDWEKWRPLWIRNWD

SMEIYRQKSEELVQQHPQWPPKEVEEMAQQFEKSACDFMNKTLWLGKSLRPSAYWGFY
GFPDCYNDFDLSLPYNGTCPDVEQQRNQNLSWLWRGSQALYPSIYLPCLNGTNKVLAYV
RHRVAEFAVQQGILDGIPVLPYSQIAFERTLDFLSQEDLMNTIGESAAQGAAGII
LWGLDYSTSKEMCLRLKDYVEGPLGHYIVNVTASADLCSQTLCSGRGRVCVRQDKQQGY
LHLDPSRFTIDL RAGKPWLVAQSLEPGEDISRLAKEFSCQCY

>NP_001074154.2 hyaluronidase PH-20 precursor [Danio rerio]
PFVLLWNAPISKCHQLKVPLDLSLFQAVTTPARVHNQSLSLFYKTRLGLFPYVDLHSM
KEYNGGIPQRGNLSASLEKAKEEFLQFIPDSSSGLAVMDWEEWLPIDRNFDLKKIYME
SINYTLEQNSSLSPQQAATEAKQQFQKEARRMEETLKKGINLRPRYLWGYLFPDCYNY
GFDESNYTGTCEYTKQLNELLWLWEVSTALYPSAYLPVSKSGSKSAAKFVRHQVEEAM
RVASLPKHVHTAPVYVYLRPLLNTQKKLYMNEIDLVSIGESAALGASGAVLWGSSADYN
DKTSCEALSAYLSDKLNPHYILNVTTAAHLCSKNLCQGEGRVCVRKNNNSDDFLHISSESHH
IGRNAGKYVVTGTPSASDLADWKSFKTCQCYEDRNC

>XP_003448436.2 hyaluronidase-1 isoform X1 [Oreochromis niloticus]
VLLHLILISLVSLHYPNSPFSKVPFLTVWNAPSANCLSQYGVLDLGMFNIVQNQNQT
FMGQNIITIFYAEKLGlyPRYSHQGEAINGGVPQNSSLDKHLKVARENVTYIPDRGFPG
LGVVDWESWRPEWERNWDTKKIYQEGSKALVRSKHPDWSPKQVDDAARVEFNKAARNFME
ETLKLQGAARPDLGWGYYGFPNCYNYSNKSTGYTGECPPVELKRNDKLLWLWSTSSALY
PDIYLSIQMQSLSREVLlyCHHRILEAMRAADQVTPFAPPVYAYARIVYTYTLEFL
SQEHLVYTIIGESAALGSAGVVLWGDHALSKTQATCAAVKSYIDNTLGPYLVNVTSATLC
SQIMCSSHGRCQRKDPQSKAYLHLDPASWVSKRKPNGWRKYKVLGRLQPRHVKLMESE
FQCRCYAGWRGQSCSE

>XP_002813763.3 hyaluronidase-2 [Pongo abelii]
LAVAWAMELKPTAPPIFTGRPFVVAWDVPTQDCGPRLKVPLDLNAFDVQASPNEGfVNQN
ITIFYRDRGLGLYPRFDSAGRSVHGGVPQNVSLWAHRKMLQKRVEHYIRTQESVGLAVID
WEDWRPVVWRNWQDKDVYRRSSRQLVASRHPDWPPDRIVKQAQYEFEEAAQQFMLET LRY
VKAVRPRHLWGFYLFPCYNHDYVQNWESYTGRCPDVEVARNDQLAWLWAEStALFPSVY
LDETLASSRHGRNFVSRVQREALRVARTHANHALPVYVFRPTYSRRLTGLSEMDLIS
TIGESAALGAAGVILWGDAGYTTSTETCQYLKDYLTRLLVPYVNVSWATQYCSRAQCHG
HGRCVRRNPSASTFLHLSTNSFRLVPGRAPGEPQLRPVGELSWADLDHLQTHFRQCQYLG
WSGEQ

>XP_002935681.1 hyaluronidase-1 [Xenopus tropicalis]
YTFLLSGLLGWLAAGTDPVLKGRPFASVWNAPTSPCLDRFGVTLDLSAFDIVLNQNHTFQ
GSEVVIIFYSSQLGFYPYDESLSPVNGGLPQNNSLRDHLDKAFMDLLETISHPGFNGV
AVVDWESWRPLWARNWDMKRVYQSSQDLVKEFYPHLPPDKVIELAKAEFETAARKLMQS
TLELGRALRPKGLWGFYGFPCSYNYGYKKNYQNYTGECPIEEIHRNDNLTWLWEASQA
LYPDIYLEQALKMSEHVGPYVKHVRVLEGIRVAKDLPVLPYARIVYTYSMDFLT
QEDLIQTIGQSAALGAAGIILWGNADYSRSEESCLAVKSYIDETLGRYLVNVSSSAMLCS
KAVCTGNRCVRKDPSSDHLHLHPDSFRIKRHPPEGRGFVVSQASKWDILYFGEHFYCR
CY

>XP_001168599.1 hyaluronidase-2 [Pan troglodytes]
LAVAWAMELKPTAPPIFTGRPFVVAWDVPTQDCGPRLKVPLDLNAFDVQASPNEGfVNQN
ITIFYRDRGLGLYPRFDSAGRSVHGGVPQNVSLWAHRKMLQKRVEHYIRTQESAGLAVID
WEDWRPVVWRNWQDKDVYRRLSRQLVASRHPDWPPDRIVKQAQYEFEEAAQQFMLET LRY
VKAVRPRHLWGFYLFPCYNHDYVQNWESYTGRCPDVEVARNDQLAWLWAEStALFPSVY

LDETLASSRHGRNFVSVFRVQEALRVARTHANHALPVYVFRPTYSRRLTGLSEMDLIS
TIGESAALGAAGVILWGDAGYTTSTETCQYLKDYLTRLLVPYVNVSWATQYCSRAQCHG
HGRCVRRNPSASTFLHLSTNSFRLVPGHAPGEPQLRPVGELSWADLDHLQTHFRCQCYLG
WSGEQ

>XP_687640.2 hyaluronidase-2 isoform X1 [Danio rerio]
HLSGTTTRTQRASWLQVLLLMLFWTCLKAQQLKNTRWPLYSGKPLLLAWNAPTEDCRPRHD
VTFQLDQFQIVASPNEGFTKQNLTIIFYQDRLGLYPYFKPDSTPVYGGLPQAASLTQHLE
KMPDGLKKYIKDQAVKGLAVIDWEWRPLWIRNWGPKLIYRDRSQRLVAEKNPTWPLDQV
TKVAQQEFELSARKFMLETLRLAKSLRPQQLWGYYLFPDCYNHNYQTNLQNYTGQCPDIE
VSRNNEKWLWTESTALYPSVYMGKILKDNPKGRQFVRNRVKEGMRLASVGDGSGARPV
FVYTRPTYLTNMTSSNPAELLLLTEMDLVSTIGESVALGVAGVILWGDSTYASSQATCSS
LNEYLRGPLGRYLLNVTSAAEQCSRNLGFRGRCLRKQPNTDTYLHLSASTHRIERQAN
TLKLTGMSEELGRLRDDFQCQCYNGYSGDDCSIKD

>NP_003764.3 hyaluronidase-2 precursor [Homo sapiens]
LAVSWAMELKPTAPPIFTGRPFVVAWDVPTQDCGPRLKVPLDLNAFDVQASPNEGFVNQN
ITIFYRDRLGLYPRFDSAGRSVHGGVPQNVSLWAHRKMLQKRVEHYIRTQESAGLAVID
WEDWRPVVWRNWQDKDVYRRLSRQLVASRHPDWPDRIVKQAQYEFEEFAAQQFMLET LRY
VKAVRPRHLWGFYLPDCYNHDYVQNWESYTGRCPDVEVARNDQLAWLWAESTALFPSVY
LDETLASSRHGRNFVSVFRVQEALRVARTHANHALPVYVFRPTYSRRLTGLSEMDLIS
TIGESAALGAAGVILWGDAGYTTSTETCQYLKDYLTRLLVPYVNVSWATQYCSRAQCHG
HGRCVRRNPSASTFLHLSTNSFRLVPGHAPGEPQLRPVGELSWADIDHLQTHFRCQCYLG
WSGEQ

>XP_003476739.1 hyaluronidase-2 [Cavia porcellus]
AGLGPVITLALVLPVAWAMELKPTGPPIFTGRPFVVAWDVPTQDCGPRHKVSLDLKAFDV
QASPNEGFVNQSIITIFYDRLGLYPHFNEAGMSVHGGVPQNGSLQEHLGMLRKPVEHYI
RTREPAGLAIIDWEHWRPVVWRNWQDKDVYRQWSRQLVASRHPDWPDKQIVKEAQYEFEEF
AARQFMLKTLHYVKSVRPQHLWGFYLPDCYNHDYVQNWESYTGRCPDVEVARNDQLAWL
WAESTALFPSVYLDETLASSAQGRNFVSVFRVQEALRVAQSHHANHALPVYVFRPTYTHT
SKLTGLSEMDLVSTIGESAALGAAGVILWGDSSMETCQYLQKYLTDLLVPYVNVNS
WATQYCSWAQCHGHGRCVRRNPTSNTFLHLNTSSFRLVPGRVPDGLQLQPEGELSRADLN
YLRTHFRCQCY

>XP_003257153.1 hyaluronidase-2 [Nomascus leucogenys]
LAVAWAMELKPTAPPIFTGRPFVVAWDVPTQDCGPRLKVPLDLNAFDVQASPNEGFVNQN
ITIFYRDRLGLYPRFDSAGRSVHGGVPQNVSLWAHRKMLQKRVEHYIRTQESAGLAVID
WEDWRPVVWRNWQEKDVYRRSSRQLVASRHPDWPDRIVKQAQYEFEEFAAQQFMLET LRY
VKAVRPRHLWGFYLPDCYNHDYVQNWESYTGRCPDVEVARNDQLAWLWAESTALFPSVY
LDETLASSRHGRNFVSVFRVQEALRVARTHANHALPVYVFRPTYSRRLTGLSEMDLIS
TIGESAALGAAGVILWGDAGYTTSTETCQYLKDYLTRLLVPYVNVSWATQYCSWAQCHG
HGRCVRRNPSANTFLHLSTNSFRLVPGHAPGEPQLRPVGELSWADLDHLQTHFRCQCYLG
WSGEQ

>XP_002758427.1 hyaluronidase-2 [Callithrix jacchus]
LVVAWAMELKPTAPPIFTGRPFVVAWDVPTQDCGPRLKVPLDLNAFDVQASPNEGFVNQN
ITIFYRDRLGLYPRFDSAGRSVHGGVPQNGSLWAHLEMLRDHVEHYIRTPEPAGLAVID
WEDWRPVVWRNWQDKDVYRRSSRQLVASRHPDWDQADR VVKQAQYEFEECAARQFMLET LRY
VKAVRPRHLWGFYLPDCYNHDYVQNWKS YTGRCPDVEVARNDQLAWLWANSTALFPSVY

LEETLASSAHGRNFVSVFRVQEALRVAHTHHANHALPVYVFRPTYSRRLRGLSEMDLIS
TIGESAALGAAGVILWGDAGYTTSTETCQYLDKDYLTRLLVPYVNVSWATQYCSWAQCHG
HGRCVRRNPSASTFLHLSANSFRLVPGRAPGEPQLRPVGNLSSADRHHLQTHFRCQCY

>XP_001102414.2 hyaluronidase-1 isoform X1 [Macaca mulatta]
PLLPNRPFATVWNANTQWCLERHSVDVDSIFDVVANPGQTFRGPDMTIFYSSQLGTYPY
YTPTGEPVFGGLPQNASLIAHLARTFQDILAAIPAPDFSGLAVIDWEAWRPRWAFNWD
KDIYRQRSRALVQAQHPDWPVTQVEAVAQDQFQGAARAWMAGTLQLGRALRPRGLWGFY
FPDCYNYDFLSPNYTGQCPGIRAQNDQLGWLWQSRALYPSIYMPAVLEGTGKSQMYVQ
HRVAEAFRVAVAAGDPNLPVLPYVQIFYDMTNHFLPLDELEHSLGESAAQGAAGVVLW
VSWENTRTKESCAIKEYMDTTLGPFILNVTSGALLCSQALCSSHGRCVRRPSHPKALLI
LNPASFSIQLTPDGGPLSLRGALSLEDQAQMAVEFKCRCYPGWQGPWCEQKS

>NP_742037.2 hyaluronidase-2 precursor [Rattus norvegicus]
APPIFTGRPFVVAWNVPTQECAPRHKVPDLRAFDVEATPNEGFFNQNTTFYDRLGLY
PRFDAAGMSVHGGVPPQNGSLCAHLPLKEAVERYIQTQEPAGLAVIDWEWRPVVRNW
QEKDVYRQSSRQLVASRHPDWPSDRIVKQAQYEFEFARQFMLNTRLRYVKAVRPQHLWGF
YLFPCYNHDYVQNWDSYTGRCPDVEVARNDQLAWLWAESTALFPSVYLDELASSKHSR
NFVSVFRVQEALRVAHTHHANHALPVYVFRPTYTRGLTELSQMDLISTIGESAALGSAG
VIFWGDVYASSMENCQNLKKYLTQTLVPYIVNVSWATQYCSWTQCHGHGRCVRRNPSAS
TFLHLSPSSFRLVPGRTPEPQLRPEGELSEDDL SYLQMHFRCHCY

>NP_999605.1 hyaluronidase-2 precursor [Sus scrofa]
LAVAWATELKPTAPPIFTGRPFVVAWDVPTQDCGPRHKVPLDPKDMKAFDVQASPNEG
NQNTITIFYRDLGMPYHFDVSVGRSVHGGVPPQNGSLWVHLKMLKGHVEHYIRTQEPAG
LAVIDWEDWRPVVRNWQDKDVYRRLSRQLVASRHPDWPPDRVVKQAQYEFEFARQF
MLET LRFVKAFRPQHLWGFYLFPCYNHDYVQNWETYTGRCPDVEVSRNDQLAWLWA
ESTALFP SVYLEETLASSTHGRNFVSVFRVQEALRVAHTHHANHALPVYVFRPTYSR
GLTGLSEMD LISTIGESAALGAAGVILWGDAGYTTSMETCQYLDKDYLTRLLVPYV
NVSWAAQYCSWAQ CHGHGRCVRRDPSANIFLHLSASSFRLVSHAPGEPQLRPEGEL
SWADRNLQTHFRCQCY

>NP_001009754.1 hyaluronidase-2 precursor [Ovis aries]
LVVAWATELKPTAPPIFTGRPFVVAWDVPTQDCGPRHKMPLDPKDMKAFDVQASPNEG
FV NQNITIFYRDLGMPYHFNVSVGRSVHGGVPPQNGSLWVHLEMLKGHVEHYIRTQEP
AGLA VIDWEDWRPVVRNWQDKDVYRRLSRQLVASHHPDWPPERIVKEAQYEFEFARQ
FMLET LRFVKAFRPRHLWGFYLFPCYNHDYVQNWETYTGRCPDVEVSRNDQLSWLW
AESTALFP SVYLEETLASSTHGRNFVSVFRVQEALRVADVHHANHALPVYVFRPTYSR
GLTGLSEMD LISTIGESAALGAAGVILWGDAGFTTNETCRRDKDYLTRSLVPYVNV
SWAAQYCSWAQ CHGHGRCVRRDPNAHTFLHLSASSFRLVSPHAPDEPRLRPEGEL
SWADRNLQTHFRCQCY

>NP_083196.2 hyaluronoglucosaminidase 6 precursor [Mus musculus]
VLFVLLVAPAALKPAMPPVIKDHFPNFWAAPTLCCKDNFNVMNLQVFNIIIPNPFET
QSGSTITVFYPKELGYPPYFSEDGTSFYGGIPQKVNLSHRLKRSAGDIADAVTLWRSEG
LAVIDWEGWRPQWDRNWGSRMIYKNHSLAFTRHHHPDWAETKVRTAAQKEFENAGRSFMN
VTTLTALALEMRPKRLWGFYLYPDCYNYDYRINPEFYTGSCPDDEIFRNDQLMWLWEK
SAAL YPSIYLSKILKSNLNAKFVHFRVREALRVAEMARKDYVLPVFIKSRPFYLSIEAL
SE EDLVHTIGESAALGAAGIILWGGYEYSDTKETCLSVRQTVHGLLGPYVNLNVTSAK
LCSQ NLCNSHGRCVRKTPESFYLHMPEDSHKNYVSKKGFVIVIPSPSKLKTIMNMKNGFV
CHC

Y

>NP_001019491.1 hyaluronoglucosaminidase 6 precursor [Rattus norvegicus]
PPVIKNQPFNIFWAAPTFLCKDNFDVNMNLQAFNIIPNPFETQSGSTIAVFYPKELGYYP
YFSEDGISFYGGIPQNVNLSEHLRKSANDIANAVSLWRSEGLAVIDWEGWRPQWDRNWG
GRIIYKNHSLAFTRHHHPDWAETKVRTVAQQEFENAGKSLMNVTLTLALEMRPKRLWGFY
LYPDCYNYDYRINPEFYTGSCPDEIFRNDQLMWLWEKSAALYPSIYLSKILKSDINALK
FVHFRVREALRIA EKARKDYALPVFIFSRPFYLSIEALSEEDLVHTIGESAALGAAGI
ILWGGYEYSDTKETCLSLQQT VHGLLGPYALNVTSAAKLCSQSLCNSHGRCIRKTPDSSF
YLHMPEDSQKNSVTSKGVNFVISP KSKLKAIVNMKNGFVCHCY

>NP_776772.1 hyaluronidase-2 precursor [Bos taurus]
LVVAWATELKPTAPPIFTGRPFVVAWDVPTQDCGPRHKMPLDPKDMKAFDVQASPNEGTV
NQNITIFYRDLGMPYHNSVGRSVHGGVPQNGSLWVHLEMLKGHVEHYIRTQEPAGLA
VIDWEDWRPVWVRNWQDKDVYRRLSRHLVAIRHPDWPPERVAKEAQYEF EFAARQFMLET
LRFVKAFRPRHLWGFYLPDCYNHDYVQNWETYTGRCPDVEVSRNDQLAWLWAESTALFP
SVYLEETLASSTHGRNFVSRVQEARVADVHHANHALPVYVFT RPTYSRGLTGLSEMD
LISTIGESAALGAAGVILWGDAGFTTNETCRR LKDYLTRSLVPYVNVSWAAQYCSWAQ
CHGHGRCVRRDPNAHTFLHLSASSFRLVPSHAPDEPRLRPEGELSWADR NHLQM HFRQC
Y

>NP_149349.2 hyaluronidase-1 isoform 1 precursor [Homo sapiens]
LLPICALFLTLDDMAQGFGRGPLLPNRPFTTVWNANTQWCLERHGVDDVSVFDVVANPG
QTFRGPDMTIFYSSQLGTYPYTPTGEPVFGGLPQNASLIAHLARTFQDILAAIPAPDF
SGLAVIDWEAWRPRWAFNWDTKDIYRQRSRALVQAQHPDWAPQVEAVAQDQFQGAARAW
MAGTLQLGRALRPRGLWGFYGFPCYNYDFLSPNYTGQCPSGIRAQNDQLGWLWGQSRAL
YPSIYMPAVLEGTGKSQMYVQHRVAEAFRVAVAAGDPNLPVLPYVQIFYD TTNHFLPL
DELEHSLGESAAQGAAGVVLWVSWENTRTKESCQAIKEYMDTTLGPFILNVTSGALLCSQ
ALCSGHGRCVRR TSHPKALLLLNPASF SIQLTPGGGPLSLRGALSLEDQAQMAVEFKCRC
Y

>NP_001035086.1 hyaluronidase-1 precursor [Danio rerio]
PLIKLPFISIWNAPTERCKSRFGVELDLSVFDIVHNPNTFMGDNITIFYSDKLGKYPH
YGPNDIPIYGGVPQNASLNEHLKKADEDLRKNIPDPEFQGLAIDWEKWRPLWERNWDS
KEYVWKASRAIVKAKHPTWSPDQIETEAVKEFEASSMAFMVETLKLGRRERSGGLWGFY
FPCCYNYQYKKNETYTGECPALEMKRNDKLAWMMWVSSALYPDIYLDLGLRGRGQDILLY
SRYRILEAMRVREKTTHQMTSVFPYARIAFTYSMEFLSQDDL VHTIGESVALGASGVV
LWGDGNFSRTKRACEAVRDYLDVTLGRYIVNVTEAAFLCSRKVCSSQGRVRRDPSASVY
LHLNPEMWSIIPRAQLPGPITGGPSYVAHRRLLWTGQEETSRFADSFRCQCF

>XP_003502176.1 hyaluronidase-like [Cricetulus griseus]
PPVIKDQPFNIFWAAPTFFCQERFGVNMNLQVFGIIPNPLETQSGSTIAIFYPDELGYYP
YFSEDRRSIYGGIPQKGNLSEHLKKSASDIADTVTWWRSEGLAVIDWEGWKPQWDRNWG
SR IYKNHSLAFTRHHHPDWSEAKVRTVAQQEFENAGRSFMNITLTLALEMRPKRLWGFY
LYPDCYNYDYRINPEFYTGRCPDDEIFHNDQLLWLWEKSTALYSSIYLSKILKSNLNALK
FVHFRVREALRVAEMARKDYVLPVVFVSRPFYLSFEALSEEDLVHTIGESAALGAAGI
ILWGGHEYESKEACL SVQQT IQGLLGPYVFNVTSAAKLCSQSLCNSHGRCVRKTVESSF
YLHMPEDSHKSYVINKGFKFVTSARSKLKTIMNMKNGFVCHCYG WYGESCRSHFPNLLS
RKNKAPVTAFNSVVFLGMTLCV

>XP_003257149.1 hyaluronidase-1 [Nomascus leucogenys]
PLLPNRPFTTVWNANTQWCLERHGVVDVSVFDVVANPGQTFRGPDMTIFYSSQLGTYPY
YTPTGEPVFGGLPQNASLIAHLARTFQDILAAIPAPEFSGLAVIDWEAWRPRWAFNWD
KDIYRQRSRALVQAQHPDWPAPQVEAVAQDQFQGAARAWMAGTLQLGRALRPRGLWGFY
FPDCYNYDFLSPNYTGQCPSGIRAQNDQLGWLWGQSRALYPSIYMPAVLEGTGKSQMYVQ
HRVAEAFRVAVTAGDPNLPVLPYVQIFYDMTNHFLPLDELEHSLGESAAQGAAGVVLW
VSWENTRTKESCQAIKEYMDTTLGPFILNVTSGALLCSQALCSGHGRCVRRPSHPKALL
LNPAFSIQLTPGGGPLSLQGALSLEDQAQMAVEFKCRCYPGWQGLWCEQKS

>XP_002813766.6 hyaluronidase-1 isoform X1 [Pongo abelii]
PLLPNRPFTTVWNANTQWCLERHGVVDVSVFDVVANPGQTFRGPDMTIFYSSQLGTYPY
YTSPGEPVFGGLPQNASLIAHLARTFQDILAAIPAPDFSGLAVIDWEAWRPRWAFNWD
KDIYRQRSRALVQAQHPDWPAPQVEAVAQDQFQGAARAWMAGTLQLGRALRPRGLWGFY
FPDCYNYDFLSPNYTGQCPSGIRAQNDQLGWLWGQSRALYPSIYMPAVLEGTGKSQMYVQ
HRVAEAFRVAVAAGDPNLPVLPYVQIFYDMTNHFLPLDELEHSLGESAAQGAAGVVLW
VSWENTRTKESCQAIKEYMDTTLGPFILNVTSGALLCSQALCSGHGRCVRRPSHPKALL
LNPAFSIQLTPGGGPLSLRGALSLEDQAQMAVEFKCRCYPGWQGPWCEQKS

>NP_001017941.1 hyaluronidase-1 precursor [Bos taurus]
LLPVCTFLNLLSMTQGSRDVVPNPQFTTIWNANTEWCMKKHGVVDVDSIFDVVTNPGQ
TFRGNMTIFYSSQLGTYPYYTSAGEPVFGGLPQNASLNAHLARTFQDILAAMPEPRFS
GLAVIDWEAWRPRWAFNWDTKDIYRQRSRALVQKQHPDWLAPRVEAAAQDQFEGAAEEM
AGTLKLGQALRPQGLWGFYNFPECYNYDFKSPNYTGRCPLNICAQNDQLGWLWGQSRALY
PSIYLPAALEGTGKKTQMFVQHRVAEAFRVAAGADPKLPVLPYMQLFYDMTNHFLPA
EELEHSLGESAAQGAAGVVLWVSWLSTSTKESCQAIKEYVDTTLGPSILNVTSGARLCSQ
VLCSGHGRCARRPSYPKARLILNSTSFSIKPTPGGGPLTLQGALSLEDRLRMAVEFECRC
Y

>XP_002920567.1 hyaluronidase-2 isoform X3 [Ailuropoda melanoleuca]
PMVNPQFTTIWNANTQWCLEKYGVVDVSVFDVVANPGQTFRGPDMTIFYSYQLGTYPY
YTSAGEPVFGGLPQNASLDTHLAHSFQDILAAIPASDFSGLAVIDWEAWRPRWAFNWD
KDIYRQRSRTLQGGHPDWPAPWVEAAAARDQFQEAARAWMAGTLKLGQALRPRGLWGFY
FPDCYNYDFLSPNYTGQCPPGISAQNDQLGWLWGQSRALYPSIYMPAELEGRGKGQMYVR
HRVGEAFRVALGVDPNLPVLPYAQIFYDKTNRFLPLDELEHSLGESAAQGAAGVVLW
VSWENTKTKESCQAIKEYVDTTLGPFLLNVTSGALLCSQALCSGHGRCARRPSHPEALLI
LNPTSFSIQLTRGGGPLTLQGALSLEDRMMAVEFQCRCY

>XP_003476738.1 hyaluronidase-1 isoform X1 [Cavia porcellus]
PVVNPQFITVWNADTQRCLKNYSVDVSVFDVVANPGQTFFGPNMTIFYSSKLGTYYPY
YTTTGEVPVFGGLPQNASLGEHLAYAFHDIQATMPAPDFSGLVVIDWEAWRPRWAFNWD
KDIYRQRSQALIQAHDPWPESQVKTVAKDQFQKAAQAWMAGTLQLGQALRPRGLWGFY
FPDCYNYNFKSLNYTGQCPLGIPTENDQLGWLWNQSRALYPSIYIPAALVGTGKTQRYVR
HRVAEAFRVARARNPSLPVLPYTQIFYESTSHLLPMEELEHTLGESAAQGAAGVVF
WVSSSEDNTSKESCQAIKEYMDTTLGPFILNVTSGALLCSQALCFGHGRCVRRPSHPDALL
ILSLASFSIQFTPGGKPLTLKALSLEDQAQMAVEFRCHCY

>NP_999606.1 hyaluronidase-1 precursor [Sus scrofa]
LLPICTFLNLLSVAQGSRDVVLNRPFTTIWNANTQWCLKRHGVVDVSVFEVVNPGQ
TFRGNMTIFYSSQLGTYPYYTSAGEPVFGGLPQNASLDVHLNRTFKDILAAMPESNFS
GLAVIDWEAWRPRWAFNWDKDIYRQRSRALVQKQHPDWPAPWVEAAAQDQFQEAQTWM

AGTLKLGQTLRPHGLWGFYGFPCYNYDFQSSNYTGQCPPGVSAQNDQLGWLWGQSRALY
PSIYLPSALEGNTKTLVYVQHRVNEAFRVAAGDPNLPVLPYAQIFHDMNRLLSR
EELEHSLGESAAQGAAGVVLWVSWENTRTKESCQSIKEYVDTTLGPFILNVTSGALLCSQ
AVCSGHGRCVRRPSHTEALPILNPSSFSIKPTPGGGLTLQGALS LKDRVQMAEEFQCRC
Y

>XP_002713406.3 hyaluronidase-1 isoform X1 [*Oryctolagus cuniculus*]
TVPPKPFITVWNADTQWCLEMHGVDVDVSVFDVWVNPRAFRGPNVTIFYSSQLGTYPYY
TPAGEPVFGLPQNASLATHLARTFHDILAAMPAPDFSGLVVIDWEAWRPRWAFNWDK
DIYRQRSRALVRATHPDWPAPRVQAAQDQFQGAQAAMTDTLQLGRLLRPGGLWGFYGF
PDCYNDFLSPNYTGQCAPDTSEQNDQLGWLWNHSCALYPSIYMPAALEGTGKEWMMYVRH
RVTEAFRVATAAGNPTLPVLPYAQIFYALTNHFLPLEEELHSLGESMAQGAAGVVLW
VSSSENTKTESCLAIKTYVDTTLGPFILNVTSAALLCSQALCSGHGRCARHPSHPEALL
LSPASFSIQLTPGGPLTLQGALS LKDRVQMATEFQCHCY

>XP_003500449.1 hyaluronidase-1 [*Cricetulus griseus*]
TVPNKPFITVWNADTYWCLKNYGVVDVSVFDVIANKEQSFQGNVTIFYSWQLGTYPYY
TSTGEPVIFGGLPQNASLVTHLACTFQDIKAVMPEPDFSGLAVIDWEAWRPRWAFNWDK
DIYRQRSVALVQAEHPDWPETLVEAVAQDQFQEAQAAMMAGTLQLGQILRPHGLWGYG
PDCYNHNF LSPNYTGQCSLNIRDQNDQLDWLWNQSYALYPSVYLPAAALMGTGKAQLYVR
HRVQEAFRVATASRDPKVPILPYVQIFYEMTNHLLPLEEELHSIGESAAQGAAGVVV
WVSSENTTTKESCQTIKEYMDSTLGPFILNVTSAALLCSEALCSGHGRCARRPSYPEALL
TLNPASFSIQITHDGRPPSLKGTLSLKDQAQMAMKFKCRCYS

>XP_001509131.1 hyaluronidase-1 [*Ornithorhynchus anatinus*]
PVVPHNPFITVWNADTHTCLEKFHVVDLDFVDVAVNPGAEAFMGREMTIFYSNKLGLYPS
YTSSGQPLHGGLPQNASLATHLAQAQLDIQAAPKSNYWG LAVIDWESWRPLWALNWDK
KDYYRERSRALVREEHPDWSSWQVEEVAIQFQTAARAWMSQTLQLGQTLRPRGLWGFY
FPACYNDFKPNNYTGACPDGIQPLNQELQWLWNQSRALYPSIYLPSELEGTGYTWPVFR
ERVREAFRMAMGTGDASLPVLPYAQIYYDKTNHFLPLEEELHSIGESVAQGVAGVVLW
VSWEDTHTKESCENIKDYVDSTLGPFILNLTSSSTQLCSQALCSGHGRCARRRDHPHAFLY
LNSSSFSIHRPPGSRHLVLTGKLPKEDQARMMEFECHCY

>XP_001139800.4 hyaluronidase-4-like [*Pan troglodytes*]
PPVIKSQPFNIFWAAPTMYCMPFFNMAINLQVFNIISNPLETQSGSKIAIFYPNELGYYP
YLSQDGKSFNGGIPQNVSLSEHLRKTADDIGEGVPWWRSEELVVIDWESWKPQWDRNRG
SRIIYKNHSLAFTRNHHPYWSEMKVETVAQEEFENAGKNFMNITLTLALEMRPKCLWGFY
LYPDCYNYDYRINPETYTGNCPKDEVL RNDQLLWLWEKSAALYPSIHLDKILKSSLNALK
FVHYQVREAMRVAEMARHDYVLPVFI FSRPFYLHRTEALSQEDLVHTIGESAALGAAGV
ILWGGYEYSASKENCLSVQQSIRGPLGHYAVNVTSAAKLCSQSLCENNHGRCIRKTPESSF
YLHMPESGKEYVLNKSFRFIISENNKQKTIKDMKNGFVCHCY

>NP_032343.3 hyaluronidase-1 isoform 1 precursor [*Mus musculus*]
VVSNRPFITVWNGDTHWCLTEYGVVDVSVFDVWVANKEQSFQGSNMTIFYREELGTYPYY
TPTGEPVIFGGLPQNASLVTHLAHTFQDIKAAMPEPDFSGLAVIDWEAWRPRWAFNWDK
DIYRQRSMELVQAEHPDWPETLVEAAAQNFQEAEEAWMAGTLQLGQVLRPRGLWGYG
PDCYNDFL LSNYTGQCPVFRDQNDQLGWLWNQSYALYPSIYLPAAALMGTEKSQMYVRH
RVQEALRVAIVSRDPHPVMPYVQIFYEMTDYLLPLEEELHSLGESAAQGVAGAVLW
LSSDKTSTKESCQAIKAYMDSTLGPFI VNVTSAAALLCSEALCSGHGRCVRHPSYPEALL
LNPAFSIELTHDGRPPSLKGTLSLKDRAQMAMKFRRCY

>NP_997499.2 hyaluronidase-1 isoform 1 precursor [Rattus norvegicus]
MVSNRPFITVWNADTHWCLKDHGVDVDSVFDVVANKEQNFQGNMTIFYREELGTYPY
TPTGEPVFGGLPQNASLVTHLAHAFQDIKAAMPEPDFSGLAVIDWEAWRPRWAFNWDK
DIYQQRSMELVRAEHPDWPETLVEAEAQDQFQEAQAQAWMAGTLQLGQVLRPRGLWGYGF
PDCYNYDFLSPNYTGQCSLSIHDQNDQLGWLWNQSYALYPSIYLPALMGTGKSQMYVRY
RVQEAFLALVSRDPHVPIMPYVQIFYEKTDYLLPLEELEHSLGESAAQGAAGAVLW
ISSEKTSTKESCQAIKAYMDSTLGPFILNVTSAALLCSEALCSGRGRCVRHPSYPEALLT
LSPASFSIEPTHDRPLSLKGTLSLKDRAQMAMKFKCRCYRGWSGEWCKKQ

>XP_001168796.1 hyaluronidase-1 isoform X2 [Pan troglodytes]
LLPICALFLTLLDMAQGFGRPLLPNRPFTTVWNANTQWCLERHGVDDVSVFDVVANPG
QTRFRGDMTIFYSSQLGTYPYPTPTGEPVFGGLPQNASLIAHLARTFQDILAAIPAPDF
SGLAVIDWEAWRPRWAFNWDKDIYRQRSRALVQAQHPDWPAPQVEAVAQDQFQGAARAW
MAGTLQLGRALRPRGLWGFYGFPCYNYDFLSPNYTGQCPGIRAQNDQLGWLWGSRAL
YPSIYMPAVLEGTGKSQMYVQHRVAEAFRVAVAAGDPNLPVLPYVQIFYDTTNHF
PLESCQAIKEYMDTTLGPFILNVTSGALLCSQ
ALCSGHGRCVRRTSHPKALLLNPAFSIQLTPGGGPLSLQGALSLEDQAQMAVEFKCRC
YPGWQGPWCEQKS

>NP_997482.2 hyaluronidase-3 precursor [Rattus norvegicus]
ITQLGLTLVVGLTLCVHVQALLQVPELPFSVLWNVPSARCKTRFGVHPLDALGIIANH
GQRFHGNITIFYKNQFGLYPYFGPRGTAHNGGIPQAVSLDHHLAQAAHQILHNLGSSF
AGLAVLDWEEWYPLWAGNWGTHRQVYQAASWAWAQMFDPDLNPQEQQLHKAQTGFQAARA
LMEHTLRLGQMLRPHGLWGFYRYPVCGNGWHNMASNYTGCHPAIITRNTQLRWLWAASS
ALFPSIYLPRLPPAYHQTFVRRHLEEAFRVALTGHHAHPLPVLAYVRLTHRSSGRFLS
LDDLMQITIGVSAALGAAGVVLWGDLSSVSSSEECWRLHDYLVGTLGPYVINVTKAATACS
HQKCHGHGRCSWKDPGQMEAFHLQPDD

>NP_001193181.1 hyaluronidase-3 precursor [Bos taurus]
PARPFSVLWNVPSARCKNRFGVPLPLEALGISANRGQHFHGQNTIFYKNRGLFYYPYLG
RGTVHNGGIPQAVPLGCHLARAHAHQIRHSLWPGFAGLAVLDWEEWCPLWAGNWGRRQVY
RAASWAWAQWVFPNLDPQEQQLHKARVGFQAARALMEDTLWLGRALQPQGLWGFYRFPAC
GNGWRGTASNYTGCHAAAVARNTQLHVLWAASSALFPSIYLPRLPPAHHQAFVRYRLE
EAFRVAIAGHPHPLPVLAYARLTHRSSGRFLSDELVQTIGVSAALGAAGVVLWGDL
FSSSEECWHLHDYLLGTLGPYVINVTAAVACSHQRCHGHGRCAWQNPQGLEVFHLQP
DGSPGAWESFSCRCYHGWAAPTQCQEPPELRPEEA

>NP_001186958.1 hyaluronidase-3 isoform 1 precursor [Homo sapiens]
LVLGVALCLGCGQPLQVPERPFSVLWNVPSAHCEARFGVHPLNALGIIANRGQHFHGQ
NMTIFYKNQLGLYPYFGPRGTAHNGGIPQALPLDRHLAALAAQIHHSLRPGFAGPAVLD
WEEWCPLWAGNWGRRRAYQAASWAWAQVFPDLDPQEQLYKAYTGFQAARALMEDTLRV
AQALRPHGLWGFYHPACGNGWHSMASNYTGRCHAATLARNTQLHVLWAASSALFPSIYL
PPRLPPAHHQAFVRRHLEEAFRVALVGHHRHPLPVLAYVRLTHRRSGRFLSQDDLVS
GVSAAALGAAGVVLWGDLSSSSEECWHLHDYLVDTLGPYVINVTAAVACSHQRCHGHG
RCARRDPGQMEAFHLWPDGSLGDWKSFSCHCYWGWAGP
TCQE

>NP_999604.1 hyaluronidase-3 precursor [Sus scrofa]
PERPFCVLWNVPSARCKARFGVHPLPLEALGITANHGQRFHGQNTIFYKSQLGLYPYFGP

RGTAHNGGIPQAVSLDHHLARAAYQIHRSLRPGFTGLAVLDWEEWCPLWAGNWGRRQAY
QAASCAWAQRVYPNLDPQEQLCKARAGFEEAARALMEDTLRLGRMLRPHGLWGFYHYPAC
GNGWHGTASNYTGCHAAALARNTQLYWLWAASSALFPSIYLPPGLPPAYHQAFVRYRLE
EAFRVALVGHPHPLPVLAYARLTHRNSGRFLSQDELVQTIGVSAALGASGVVLWGDLS
FSSSEECWHLRGYLVGTLGPYVINVTRAAMACSHQRCHGHGRCAWQDPGQLKVF LHLHP
GG

>XP_001493753.3 hyaluronidase-3 isoform X1 [Equus caballus]
PECPFSVLWNVPSAHCKARFGVHLPLEALGITANCGQRFHGQKITIFYKNQLGLYPYLG
RGTAHNGGIPQAVPLDCHLARAAYQIHHSRPGFTGLAVLDWEEWSPWAGNWGRRRAY
QTASWAWAQRVFPYLDPQEQLHKAQTGFQAARALMEDTLRLGQALQPYGLWGFYRFPAC
GNGWRGMASNYTGCHAATLARNTQLHHLWAASSALFPSIYLPPRLPPAHHQAFVRYRLE
EAFRVALTGHIIHPLPVLAYARLTHRSSGRFLSQDDLVTIGVSAALGAAGVVLWGDLS
FSSSEECWRLHDYLVGTLGPYVINVTRAATACSQQRCHGHGRCARRDPGQMEAF LHLQP
DG

>NP_001121765.1 hyaluronidase-3 [Danio rerio]
VIGRRGFQVIWNVPTARCQRRYGVSLPLQQYNIHNSHQRFQGNMSIFYQRRRLGLYPYI
SREGVKVNGGLPQEGYLKAHLSLAGVEIREKLRSSFSGLAVLDWEAWEPVWKWNFGTRI
VYRKLKSKKLVRWEHPDMSEEEVKSKAKLDFELAAARQFMEETLRLGLRLCPEGLWGFYGF
SCYNNNGQGSYTGKCHNGTEILNDRLGFLWQQSTALYPSIYLWRKLAGHTHAQLMVRH
RILEALRVASQHSPPGSEPLPVFPYTRVAFIHSITFLNQTDLEHTLGESAALGAAGVVLW
GELSFASKKHQCTLLRDYLVSSVLGEYITALRAGVTNCSERLCNAQGRCSRWDPHSHH
MIPLLGPHDALSLSDMRSKFKCVCYEGWS

>NP_821139.2 hyaluronidase-3 precursor [Mus musculus]
VPEHPFSVWVWNP SARCKAHFGVHLPDLALGIVANHGQHFHGQNI SIFYKNQFGLYPYFG
PRGTAHNGGIPQAVSLDHHLARAHAHQILHSLGSSFAGLAVLDWEEWYPLWAGNWGPHRQ
VYLAASWVWTQMFPGLDPQEQLHKAHTSFEQAARALMEYTLQLGRTL RPSGLWGFYRYP
ACGNGWHKMASNYTGCHAAITTRNTQLRWLWAASSALFPSIYLPPRLPLAYRQAFVRRH
LEEAFRVALLEHSHPLPVLAYSRLTHRSSGRFLSLDDLMQTIIGVSAALGTAGVVLWGD
LSFSSSEKWCRLHDYLVGTLGPYVINVTKAAMACSHQRCHGHGRCARKDPGQMEAF LHL
QPDD

>XP_002128103.1 hyaluronidase-1-like [Ciona intestinalis]
MSFSYVFLALGILGSVCHSQSLQSYLTTS LKDNIWQPPLPDRPFIGVWVDSNRCLT
KYNVPIDLSSFDIIHNPNEEYVGNQMVIFYAALLGLYPKYGT DGLAVNGGIPQNGNISA
HYEKCVDIMARIPDSNYNGIAVIDWEAWRPKWERNGWGSGLIYQNK SIEKVKKEHPSWP
LNKVKQAQAKIEFEAAKSYMLGTLNLARLMRPKAHWGLYLFPCYNYDKTGKRMCTT
KTINMNNDIQWLF DNASNALYPSTYLGLWFKNTNASMEYVANRVKEALRVD FDRKNDISAP
VYVYNNIFYRKSSEFLTQKDIIHSSGTA AVL GASGVVFWGDSICSKTKEMCENLKY YVE
NILGPYIKSASDSAAMCSLNTCNGHGRCV

>XP_003642042.3 hyaluronidase-3 isoform X1 [Gallus gallus]
PFAVLWNIPSSRCQRRFGVGLPLADYGIVENRGRFAGQNI TIFYKNKFLYPYISPQG
VPHNGGIPQRAPLRAHLARVAGDVRLRLRPAFSGLAVVDWEEWRPLWARNWGRKR VYQLA
SQRWAQERGRGRRLLARRAFERAARALMEQTL L LGRSLRPAGLWGFYRFPDCFND
DWAQVANYTGRCRPAEVQRNDRLRWLWAASAALYPSIYL PPLLPPGLRRRYVHHRLCEAL
RLAAGRLPVVAYSRLSYRRSPRFLPADLEHTIGESAALGAAGVVLWGDMSYSR
SAESCSSLRHVLSVLPYVANVTAAARACSL EQCHGHGRCVRRQP RELSILLHLGAGSW

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