

Numbering is for the alignment, not for FVIII sequence

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          10      20      30      40      50      60      70      80      90     100
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
FVIII_HUMAN  MQIELSTC----FFLCLLRFCFSATRRYYLGAVELSDYMQSD-LGELPVDARFP-PRVPKSFPFNSTSVVYKKTLFVEFTDHLFNIAKRPPWMLLGGPT
FVIII_GORILLA MQIELSTC----FFLCLLRFCFSATRRYYLGAVELSDYMQSD-LGELPVDARFP-PRVPKSFPFNSTSVVYKKTVFVEFTDHLFNIAKRPPWMLLGGPT
FVIII_DOG     MQVELYTC----CFLCLLPFSLSATRKYYLGAVELSDYMQSDLLSALHADTSFS-SRVPGSLPLTTSVTYRKTVFVEFTDDLFNIAKRPPWMLLGGPT
FVIII_COW    MHIKLSTC----FFLCLWPCFSFAIRYYLGAVELSDYMQSELLSELHVNTRFP-PRVPKFPFNSTSVMYRKTVFVEFTDQLFNIAKRPPWMLLGGPT
FVIII_PIG    MQLELSTC----VFLCLLPLGFSAIRYYLGAVELSDYRQSELLRELHVDTRFP-ATAPGALPLGPSVLYKKTVFVEFTDQLFSVARPPWMLLGGPT
FVIII_MOUSE  MQIALFAC----FFLSLNFNCSSAIRYYLGAVELSWNYIQSDLLSVLHTDSRFL-PRMSTSFNFNTSIMYKKTVFVEYKDQLFNIAKRPPWMLLGGPT
FVIII_RAT    MRAARGLC---FFLSLICALCSCATRKYYLGAVELPWDYVSGGASGAQRSDSRFP-PGTPAP---SAHVVHTKTVFVEYMDRFFHTAKRPLWMLLGGPT
FVIII_CHICKEN MLLGALRC---LLLLSLLGEGSGEVRRYYIGAVETAWDYVHSELLSTLQAPVGVSGPREPQPTMPGALPRYSKAVFVEYLDASFTQPKPKPAWMLLGGPT
FVIII_OPOSSUM MKEAMGLLPLAAFLLCLEESICTTRYYIGAVELYWDRKSEPLATLSLDPGLS-RRGSEALGASGSPVYKKAFFAEYTDGLFRQAKPRAPWMLLGGPT
FVIII_ZEBRAFISH MKTLLFLL--LLSACQEYSCVSAKTLEFFIAAVETKWEYVFTDTADPAANQRRFI--QFPKLKFASGVQKYTKAVYTEYTDSTFTTPKSKPPWAGIQGPT

          110     120     130     140     150     160     170     180     190     200
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
FVIII_HUMAN  IQAEVYD TVVITLKNMASHPVSLHAGVSVYWKASE--GAEYDDQTSQREKEDDKVFPGGSHTYVWQVLKENGPMASDPLCLTYSYLSHVLDLVKDLNSGLI
FVIII_GORILLA IQAEVYD TVVITLKNMASHPVSLHAGVSVYWKASEAIGAEYDDQTSQREKEDDKVFPGGSHTYVWQVLKENGPMASDPLCLTYSYLSHVLDLVKDLNSGLI
FVIII_DOG     IQAEVYD TVVIVLKNMASHPVSLHAGVSVYWKASE--GAEYEDQTSQREKEDDNVIPGESHTYVWQVLKENGPMASDPPCLTYSYFSHVLDLVKDLNSGLI
FVIII_COW    IQAEVYD TVVITFKNMASHPVSLHAIGVSVYKSSSE--GAAYEDETQTSQREKEDDKVIPGKSHTYVWQILKENGPTASDPPCLTYSYLSHVLDLVKDVNSGLI
FVIII_PIG    IQAEVYD TVVVTLKNMASHPVSLHAGVSVFWKSSSE--GAEYEDHTSQREKEDDKVLPGKSQTYVWQVLKENGPTASDPPCLTYSYLSHVLDLVKDLNSGLI
FVIII_MOUSE  IWTEVHDTVVVITLKNMASHPVSLHAGVSVYWKASE--GDEYEDQTSQMEKEDDKVFPGESHTYVWQVLKENGPMASDPPCLTYSYMSHVLDLVKDLNSGLI
FVIII_RAT    IWTEVHDTVVVITLKNMASHPVSLHAGVMSFWKASE--GAAYDDHSSPAEKDDDKVLPGESHTYAWQVLGESGPMASDPPCLTYAYLSHVLDLVRDLNSGLV
FVIII_CHICKEN IRAEVYD TVVITFKNLASRPYNLHAGVSVYWKASE--GAGYEDETQPEQEGDRVDPGETHTYIWEIQDQDQPTDGDSDQLTYSYSSNVNSVKDTNSGLI
FVIII_OPOSSUM IRAEVHDTVLIITLKNMASHPVSLHAIGVSVYWKASE--GARYNDQTTAEKEDDKVAPGASYTYVWRVLKENSPMDHDPCLTYAYLSHVDTVKDLNTGLI
FVIII_ZEBRAFISH IRTVVNDRVVVHFKNFASQSFSISPIGIPYWKQSEGNSAGYEDSSSFQERADDVSPGGYRYVWDISPNSGPTTSDPCLTYIYSSQVDIIRDFNLSGLI

          210     220     230     240     250     260     270     280     290     300
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
FVIII_HUMAN  GALLVCREGSLAKEKTQTLHK-FILLFAVFDEGKSWHSETKNSLMQDRDAASARAWPKMHTVNGYVNRSLPGLIGCHRK-SVYWHVIGMGTTPPEVHSIFL
FVIII_GORILLA GALLVCREGSLAKEKTQTLHK-FILLFAVFDEGKSWHSETKNSLMQDRDAASARAWPKMHTVNGYVNRSLPGLIGCHRK-SVYWHVIGMGTTPPEVHSIFL
FVIII_DOG     GALLVCKEGSLAKERTQTLQE-FVLLFAVFDEGKSWHSETNASLTQ-----AEAQHELHTINGYVNRSLPGLTVCHKR-SVYWHVIGMGTTPPEVHSIFL
FVIII_COW    GALLICREGLTIKERTQTLHK-FVLLFAVFDEGKSWHSGKNESLTRVMDSASA-----LHTINGYINRSLPGLIGCHKK-SVYWHVIGMGTTPPEVHSIFL
FVIII_PIG    GALLVCREGSLTRERTQNLHE-FVLLFAVFDEGKSWHSARNDSWTRAMPAPARAQPAMHTVNGYVNRSLPGLIGCHKK-SVYWHVIGMGTSPPEVHSIFL
FVIII_MOUSE  GALLVCKEGSLSKERTQMLYQ-FVLLFAVFDEGKSWHSETNDSYTSQSMDSASARDWPKMHTVNGYVNRSLPGLIGCHRK-SVYWHVIGMGTTPPEIHSIFL
FVIII_RAT    GALLVCKEGRIMNTGRIMAH-LLIIDLRAGEGGQWLDXXYVSIYVCVYVC-----IHVCMHLSHSHFTGLTGCRGT-SVYWHVMAVGTTTPEIHSILL
FVIII_CHICKEN GALLVCRPGTLVRDGAQNMQODLVMLFAVFDEGKSWYSEPN-----SPAHSRTELHTINGYINSSLPGLTLCHRK-QVHWVVIASGTGPEVHSIFF
FVIII_OPOSSUM GALLICKEGSLDRDGAQHLQE-FVLLFAVFDEGETWHSAAAGPKTQTQAYGAKKPSPKVHTINGYTNGLSLPDLVVCHRK-LIHWVHIGMGTTPPEVHSIFL
FVIII_ZEBRAFISH GALLICKTDALTEDRQRRVPE-FILLLSVFDESKSWYQEVG----RAEKLKKTSSNTQYHTINGYINSLTLPGLSVCEKSPQVSWHLIGLSSPEIHSIQF
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      310      320      330      340      350      360      370      380      390      400
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FVIII_HUMAN  EGHTFLVRNHRQASLEISPIITFLTAQTLIMDLGQFLLFCHISSHQHDGMEAYVKVDSCEPEEPQLRMK-NNEEAEDYDDDLTDSEMDVVRFDNNSP----
FVIII_GORILLA EGHTFLVRNHRQASLEISPIITFLTAQTLIMDLGQFLLFCHISSHQHDGMEAYVKVDSCEPEEPQLRMK-NNEEAEDYDDDLTDSEMDVVRFDNNSP----
FVIII_DOG     EGHTFLVRNHRQASLEISPIITFLTAQTFMLDLGQFLLFCHIPSHQHDGMEAYVKVDSCEPEEPQLRMK-NNED-KDYDDGLYDSDMDVVSFDDSSS----
FVIII_COW    EGHTFLVRNHRQASLEISPIITFLTAQTVLMDCGQFLLFCRISSHQHDGMEAYVKVDSCEPEEPRLWMK-NNQE-EDYDDGLDSDMDVVRFDGDSAP----
FVIII_PIG    EGHTFLVRHHRQASLEISPLTFLTAQTFMLDLGQFLLFCHISSHHHGGMEAHVVRVESCAEEPQLRRK-ADEE-EDYDDNLYDSDMDVVRLDGDDVS----
FVIII_MOUSE  EGHTFFVRNHRQASLEISPIITFLTAQTLIDLGQFLLFCHISSHKHDGMEAYVKVDSCEPEESQWQKNNNEEMEDYDDDLY-SEMDMFTLDYDSS----
FVIII_RAT    EGHTFSVRSRHRQASLEISPMTLLTAQTWLMDLGRFLLFCHISSHRHGGMEAYVQVDCPEAPQGQK-RDEDEDYDD--LDSEMDVFTWDPDAA----
FVIII_CHICKEN EGHTFLVRGHRLSSLEISPATYLTATMPGTAGSFRVFCQMPSSHQAGMEAVVKVEECPDEIQQKMG-QPSDEPEYTDAAEEDEEGY-----
FVIII_OPOSSUM ESHTFLVRNHRQLTSLEISPATFLTAQTLPMDTGHFLMFCQIPSHQHDGMEASVHVEACPEEPQVRM--HKDPEAYYDD--YEEDTQVFLMAGGGGGGTS
FVIII_ZEBRAFISH EGHTLKVFDHKRVTVEMTPMTFTTALMKPSATGRFLISCRISHSHQTAGMNAFFTVENCPPEAPLPLPKRNVKHTNDDEEEDDEDNMFVSVFKQGG----

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      410      420      430      440      450      460      470      480      490      500
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FVIII_HUMAN  SFIQIRSVAKKHPKTWVHYIAAEEEDWDYAPLVLA-PDDRSYKSQYLNNGPQRIGRKYKKVRFMAYTDETFKTR- AIQHESGILGPLYGEGVDTLLII
FVIII_GORILLA SFIQIRSVAKKHPKTWVHYIAAEEEDWDYAPLVLA-PDDRSYKSQYLNNGPQRIGRKYKKVRFMAYTDETFKTR- AIQHESGILGPLYGEGVDTLLII
FVIII_DOG     PFIQIRSVAKKHPKTWVHYIAAEEEDWDYAPSGPT-PNDRSHKNLYLNNGPQRIGKKYKKVRFVAYTDETFKTR- AIQYESGILGPLYGEGVDTLLII
FVIII_COW    PFIQMRSVAKKHPKTWVHYIAAEEEDWDYAPSVLT-TSDRSYKSLYLNGPQRIGRKYRKVRFIAYTDGTFKTR- AIQHESGILGPLYGEGVDTLLII
FVIII_PIG    PFIQIRSVAKKHPKTWVHYISAEEDWDYAPAVPS-PSDRSYKSLYLNSGPQRIGRKYKKARFVAYTDVTFKTRK-AIPYESGILGPLYGEGVDTLLII
FVIII_MOUSE  PFIQIRSVAKKHPKTWVHYISAEEDWDYAPSVPT-SDNGSYKSQYLSNGPHRIGRKYKKVRFIAYTDETFKTR- TIQHESGILGPLYGEGVDTLLII
FVIII_RAT    PFVQVRSAAKRHPKTWVHYIAAEEGDWDYAPAAAT-LEDGSLRNRYLGRGPRIGSKYKKVRFVAYTDGTFHTRE-ATPREAGLLGPLYGEGVDSLIV
FVIII_CHICKEN HVIQVRSFAKKDPVMWTHYIAAEEEDWDYAPVKPP-SLDRNTSRLFLEAGPQRIGSKYKKVMFVEYEDATFKKRKVSSQPGQILGPVLKGEVGDQFKIV
FVIII_OPOSSUM SFLQARSVAKKHPKAWFHYIAVQEVWDYAPAAALADPSAGGSKNRYLNGHLQGLGRKYKKARYVAYTDETFKTPQ-SSQHESGILGPLYGEGVDTLLIV
FVIII_ZEBRAFISH PISVLRSSAKGRPKVWLHYISAEETDWDYTAQSPA----SSAGSEWFRKGPQRLGGVYKVAFVEYTDKTFVSKK---TTGRTLIGPELGEVGDQFKQIV

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      510      520      530      540      550      560      570      580      590      600
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FVIII_HUMAN  FKNQASRPYNIYPHGITDVRPLYSRRLPKGVKHLKDFPILPGEIFKYKWTVTVEDGPTKSDPRCLTRYSSSFVNMERDLASGLIGPLLI CYKESVDQRGN
FVIII_GORILLA FKNQASRPYNIYPHGITDVRPLYSRRLPKGVKHLKDFPILPGEIFKYKWTVTVEDGPTKSDPRCLTRYSSSFVNMERDLASGLIGPLLI CYKESVDQRGN
FVIII_DOG     FKNQASRPYNIYPHGINYVTPLHTGRLPKGVKHLKDMPILPGEIFKYKWTVTVEDGPTKSDPRCLTRYSSSFINLERDLASGLIGPLLI CYKESVDQRGN
FVIII_COW    FKNQASRPYNIYPHGITDVSPLHSGRFPKGVKHLKDMPILPGEVFKYKWTVTVEDGPTKSDPRCLTRYSSSFINLEKDLASGLIGPLLI CYKESVDQRGN
FVIII_PIG    FKNKASRPYNIYPHGITDVSALHPGRLLKGWKHLKDMPILPGETFKYKWTVTVEDGPTKSDPRCLTRYSSSFINLEKDLASGLIGPLLI CYKESVDQRGN
FVIII_MOUSE  FKNQASRPYNIYPHGITDVSPLHARRLRGKIKHVKDLPIHPGEIFKYKWTVTVEDGPTKSDPRCLTRYSSSFINPERDLASGLIGPLLI CYKESVDQRGN
FVIII_RAT    FKNRASRAYNIHPHGIRDVGAHVAGRLRPGVKHVKDLPIRPGETFKYRWTTLTAEDGPARSDARCVRTRYASAVDPERDLASGLIGPLLI CCKESVDQRGN
FVIII_CHICKEN FRNLASRPYNIYPHGLTSVNPYHAMK-PSQEKDVKDIPIAPGQSFTYRWSITTEDGPTQADPRCLTRFYSSINPVQDTASGLIGPLLI CCKESVDQRGN
FVIII_OPOSSUM FKNLASRPYNIYPHGLTSVSPLHSGRLPKGVKDIKHPILPGETFKYKWDVTLTEEGPTQADPPCLTRYSSSFVDAQRDLASGLIGPLLI CRKETVDQRGN
FVIII_ZEBRAFISH FKNMASRPYNIYPNGLTSVQPLKTTN--KGMKYLRSLAVPPGEIMTYLWKLTAEDGPTDADPRCLTRIQSTLDPARDVASGLVGLIICKS QSLDKRGR

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          910          920          930          940          950          960          970          980          990          1000
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FVIII_HUMAN   -----LSEMTHFRPQLHHSGDMVFTP-----ESGLQLRLNE----KLGTTAATELKKLDF--KVSSTSNLIS--TIPSDNLAAGTDNT-----SSL
FVIII_GORILLA -----LSEMTHFRPQLHHSGDMVFTP-----ESGLQLLILNE----KLGTTAATELKKLDF--KVSSTSNLIS--TIPSDNLAAGTDNT-----SSL
FVIII_DOG     -----PPEVASILRPELHRSERDREFTP-----EPELQLRLNE----NLGTNTTVELKKLDL--KISSSSDSLMTSPTIPSDKLAATEKT-----GSL
FVIII_COW     -----PSPSEVAHLRPELHHSGERVFTQ-----EPELPVRLNE----NLGTTIMAEINLNL--KISSSSNLMPLPTIPSDKLSAGTKKT-----GSF
FVIII_PIG     -----PSAAARLRPELHHSAEVRLTP-----EPE-----KELKKLDS--KMSSSDLLKTSPTIPSDTLAETERT-----HSL
FVIII_MOUSE   -----PSKVTQLRPESHHSSEKIVFTP-----QPGLQLRSNK---SLETTIEVKWKKLGL--QVSSLPNLMTT--TILSDNLKATFEKT-----DSS
FVIII_RAT     -----PAEAAQLEPKPHGPKMALPP--S--WLRAGR---SLVTTMEAKRKKLDLQVQVSGLPDDR--TTAVVAPDDPM--AACKKA-----GSS
FVIII_CHICKEN -----L-----ELSKTISQDQGAGALPSRKHISGEGRG-----
FVIII_OPOSSUM SOKLRQPTDSLALNQTFFQHPRTGPWVPLLPGLRPPQSRNPSWGHLLQAPIRVAMRK--DA--ELPGSSESVTFSPDVSSSNVVTADPKGTIARVSSVQWWSA
FVIII_ZEBRAFISH -----LVFNRRHSRW-----RSRLVFNRRCSRRLVFNRRHSRWRSRLV--FNRRHSRWCSRVRVFNRRHSRWCSRVR-----

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          1010         1020         1030         1040         1050         1060         1070         1080         1090         1100
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
FVIII_HUMAN   GPPSMPVHYDSQLDITLFGKKSPLTESGGPLSLSEEN--NDSKLLSEGLMNSQESSWGKNVSTESGR-----LFGKRAHGPALLTKDNALFKVSI
FVIII_GORILLA GPPSMPVHYDSQLDITLFGKKSPLTESDGPLSLSEEN--NDSKLLSEGLMNSQESSWGKNVSTESGR-----LFGKRAHGPALLTKDNALFKVSI
FVIII_DOG     GPPNMSVHFNSHLGTVFGNSSHLIQSGVPLELSEED--NDSKLLSEGLMNSQESSLRENVLSESNR-----LFKEERIRGPASLIKDNALFKVNI
FVIII_COW     GPPNMPVFNFSQLGAIIVFGKNLSHVIGSRVPLGLSKED--NNSKLLSEGLMNSQESSLGENALSLESDR-----LFKEERVHGPVSLNKDDALFKVNI
FVIII_PIG     GPPHPQVNFERSQLGAIIVLGNSSHFAGVPLGSSEED-----HESSLGENVSPVESDG-----IFEEERAHGPASLTKDDVLFKVN
FVIII_MOUSE   GFPDMPVHSSSKLSTTAFGKKAYSIVGSHVPLNVSEEN--SDSNILDSTLMYSQESLPRDNILSMENDR-----LLREKRFHGIALLLTKDNILFKDNV
FVIII_RAT     GFPD-----ESSPAALGKKMYPRIRPHGPLSIIIEGN--RDSNSSDSTLMYRLGSPPGDATSWTENRR-----GLGEKRSHRVAFLARGNTLL----
FVIII_CHICKEN -----L-----TVTSREGLYQSKPAPEDA--MVERKVTN-----VLEVQEPAKAAVVQAGGTL-----
FVIII_OPOSSUM GP-----VARHPESLQKAKVPLSERATPMHLSNPNPADSKALKVALMDGKIVPLESKMSSLLRDG-----GFQEMSAQGAV-----EKAFEGDV
FVIII_ZEBRAFISH -----VFNSRRCSRVRVFNRRSSSFYSRWSSRWCSRVRVFNRRCSRRLVFNRRCSRRLVINRRHNRWYSMILFNRSRQSRRLVMNSTRHSRWRSRL

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          1110         1120         1130         1140         1150         1160         1170         1180         1190         1200
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
FVIII_HUMAN   -----SLLKTNKTSNNSAT---NRKTHIDGPSLLIENSPPSVWQN-----ILESDETFKKVTP-----L-IHDRMLMDKN-----ATALRLNH
FVIII_GORILLA -----SLLKTNKTSNNSAT---NRKTHIDGRSLLIENSPPSVWQN-----ILESDETFQKVTP-----L-IHDRMLMDKN-----ATALRLNH
FVIII_DOG     -----SSVKTNRAPVNLTT---NRKTRVAIPTLLIENSTSVWQD-I---MLERNTEFEKEVTS-----L-IHNETFMDRN-----TTALGLNH
FVIII_COW     -----SLVKTDKAPANSTT---NRKTHIDDPVLIENSTSVWQD-I---VIDSNTNFQEVTS-----L-IHDELFMHKN-----TTSFGLSH
FVIII_PIG     -----SLVKTNKARVYLKT---NRKIHIDDAALLTENRASA-----TFMDKN-----TTASGLNH
FVIII_MOUSE   -----SLMKTNKTYNHSTT---NEKLHTEPSTP--IENSTDLQD-A---ILKVNSEIQEVTA-----L-IHDGTLGKN-----STYLRLNH
FVIII_RAT     -----L-----SDV---DEKSHAPGPTS--VGNSTAAVQD-T---ILEICSEILEVTP-----P-IHDRILSDKS-----ATYLRPHR
FVIII_CHICKEN -----QMLETETQKPTAHTYDLWNSTVFAAGKGPLQGRSSSFQDGPESHSLGLQVTSSEGADVTP-----LNLHESREPSNT-----GPTLGSNH
FVIII_OPOSSUM -----SLARSSIVAHNSGS-----PHNAPMLSQNKSLIQKAI---VSVKDEPHKMPS-----R-SYGRITLDRN-----GGLPVPVPPQ
FVIII_ZEBRAFISH VFNSRQCSRIKDNVTWCLMKTEAGTSRKTSTRETVKIQLRSTAMIWIS-T-----ILTSCTVSEDIVKNLRSLVVVIHDIVHYGNTFEREKAYGTVLTLFP

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                1210      1220      1230      1240      1250      1260      1270      1280      1290      1300
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
FVIII_HUMAN      MSNKTTSKSNMEMVQOKKEGPIPPDAQNPDMSFFKMLFL-----PESARWIQRTHGK--NSLNSGQGPSPKQL-VSLGPEKSVEGQNFLSEKNKV
FVIII_GORILLA    MSNKTTSKSNMEMVQOKKEGPIPPDAENPDMSFFKMLFL-----PESASWVQRTHGK--NSLNSGQGPSPKQL-VSLGPEKSVEGQNFLSEKNKV
FVIII_DOG        VSNKTTLSSKNVEMAHQOKKEDPVPLRAENPDLSSSKIPFL-----PD---WI-KTHGK--NSLSSEQRPSPKQL-TSLGSEKSVKDQNFLSEE-KV
FVIII_COW        MSNKTTSKSKREMIHQEKEGPKPLDTKYPDTPFFKTLFL-----PDSTNVIKRTHDK--NSLSSGQRPSPKQL-TSSVSENSVKDQNFLSEKNKA
FVIII_PIG        VSN-----WIKGPLGK--NPLSSERRPSPPELL-TSSGSGKSVKGQSFWAGENTV
FVIII_MOUSE      MLNRTTSTKNKDIFHRKDEDPIQDEENTIMPFSKMLFL-----SESSNWFKKTNGN--NSLNSEQEHSPKQL-VYIMFKKYVKNQSFLSEKNKV
FVIII_RAT        TPDRITSTERKDIRHKKDGLVLPQDADDTSAPFSEAPFL-----SESTDWLKEANGD--NSAKPEQEPSPEQL-VYLMYIKCMENQSFSSEKNKM
FVIII_CHICKEN    NSSFTPASPLGPSARTEDIG-----TSQSHSVESNRSS--SELDAKLNKRPHKV-VSQGFNESLGGENI-----
FVIII_OPOSSUM    LPADVMGLRKELTDSLRKIDLVPLARDNVRASSPHRDGLLFGVVAPADSGNSKRAMKRKDSQ--NPETETALDRPVTV-VSVL--ELWSKQNPFSQKSMM
FVIII_ZEBRAFISH  MTGDTVTTEVEMMGKVKEQDTI-YDACQKLKPLLKLAYL-----NPNWTQLDPISLIKKINTAVGSVPKSLECFILFLFLLKLHLFTIQCCKNI

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                1310      1320      1330      1340      1350      1360      1370      1380      1390      1400
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
FVIII_HUMAN      VVGKGEFTKDVGLKEMVFP-SSRNLFLTNLDNLHENNT--HN--QEKKIQEEIEKKETLIQENVV--LPQIHTVTGTGNFMKNLFL-LSTRQNVEGSYDG
FVIII_GORILLA    VVGKGEFTKDVGLKEMVFP-SSRNLFLTNLDNLHENNT--HN--QEKKIQEEIERKETLIQENVV--LPQIHTVTGTGNFMKNLFL-LSTRQNVEGSYEG
FVIII_DOG        VVGEDEFTKDTELQE-IFP-NNKSIFFANLANVQENDT--YN--QEKKSPEEIERKEKLTQENVA--LPQAHTMIGTKNFLKNLFL-LSTKQNVAGLEEQ
FVIII_COW        VAGEDEFSNNTSLKEMIFP-NTKSIVLTNLANVQENDT--DN--QGKKSQEETEKKETLIPENTV--LPQVYTVIGTKNFLKNLFS-LSTKQNVRGLDEE
FVIII_PIG        AVEEDELSKG--KEMMLP-NSELTFLTNSADVQGNDT--HS--QGKKSREEMERREKLVQEKVD--LPQVYTATGTGNFLRNIFSPKSTEPSVEGFDGG
FVIII_MOUSE      TVEQDGFTKNIGLKDMAFP-HNMSIFLTTLSNVHENGR--HN--QEKNIQEEIE-KEALIEEKVV--LPQVHEATGSKNFLKDILI-LGTRQNISLYE--
FVIII_RAT        IAGQGGFTKNTGLEDTVFP-RKTSVFLTVAKRQESGR--HN--QE-NIPQAVTEKEAPIEEKGA--LPQVHIATGSKNFPRDMFV-LGTGQNINLHEE-
FVIII_CHICKEN    -----SFSDLQRVQEQIILT-DMRNSLPANSSMEEAKGTFAHSNDLEPSIYLPTEERDELILEAVF-----QDATATKDLPE-----
FVIII_OPOSSUM    APTEETFTTNGPDLRGVRMTGDTRNLWPT--PSVPGSGT--HAPRQRPQLQEATERKEGPASENTTASLPPYSGANREK-LLKSLFL---SNMKTSTLE--
FVIII_ZEBRAFISH  CI-----IAFQ-NIMHFCDSKASNLTYIKT--EN--SSVEIMPLI--RNTLINDSINEYNKSVKDA-----RPLI-SAGEWEVSAFD--

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                1410      1420      1430      1440      1450      1460      1470      1480      1490      1500
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
FVIII_HUMAN      AYAPVLQDFRSLNDSTNRTKKHTAH-----FSKKGEEE--NLEGLGNQTKQIVEKYACTTRISPNTSQQNFV---TQRSKRALKQFRL
FVIII_GORILLA    AYAPVLQDFRSLNDSTNRTKKHTAH-----FSKKGEEE--NLEGLGNQTKQIVEKYACTTRISPNTSQQNFV---TQRSKRALKQFRL
FVIII_DOG        PYTPILQDTRSLNDSPHSEGIHMAN-----FSKIREEA--NLEGLGNQTNQMVERFPSTTRMSSNAS-QHVI---TQRGKRSLKQFRL
FVIII_COW        TYTPGLQDNRSLSDSAKRARIHAAH-----FSKGRVEA--NVEGLGNQTKQMVEKSPSTTKLSPIPSQDDAV---PHRDKRGLKQSRRL
FVIII_PIG        SHAPVPQDSRSLNDSAERAGTHIAH-----FSAIREEA--PLEAPGNRTG-----PGERSAV---PARVKRDLKQIRRL
FVIII_MOUSE      VHVPVLQNITSINNSTNTVQIHMEH-----FFKRRKDKETNSEGLVNKTREMVKNY-----PSQKNIT---TQRSKRALGQFRL
FVIII_RAT        TYVPVHKNVPWTRNPTDRQIPMVH-----FFKRRKEEETNSGGLVNKTRETVRNY-----PSQKNSV---ARRREQASGRIKA
FVIII_CHICKEN    -----TDSLVLPQSN-----LVANDTRQFPNALSMGVPGS-----RPRQARSLQSRGL
FVIII_OPOSSUM    -----RGVEKATHELVLPNSQ-----LLTSTVSGPTSDAGLQKMHSFAREGMLLQKSVQEMSPESHTLDSHGEHRMRDRDLGPSQW
FVIII_ZEBRAFISH  -----PSLKERGMSVRYTVVNCERVLPKVDYDDYDEEFMEIIEKNFPNPRGTMGKNRTIAIRVCRNRTVTDSGS-----NTRHNETLNRSRV

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                2110      2120      2130      2140      2150      2160      2170      2180      2190      2200
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FVIII_HUMAN      GLIGPL---LVCHTNTLNPAHGRQVTVQEFALFFTFIDETK-----SWYFTENMERNCRAPCNIQMEDPTFKENYRFHAINGYI-M--DTLPGLVMAQD-
FVIII_GORILLA    GLIGPL---LVCHTNTLNPAHGRQVTVQEFALFFTFIDETR-----SWYFTENMERNCRAPCNIQMEDPTFKENYRFHAINGYI-M--DTLPGLVMAQD-
FVIII_DOG        GLIGPL---LICRSNTLNPAHGRQVTVQEFALVFTTFIDETK-----SWYFTENLERNCRAPCNVQKEDPTLKENFRFHAINGYV-K--DTLPGLVMAQD-
FVIII_COW        GLIGPI---LICRVDTLSAAHGRQVTIQEFALFFTFIDETK-----SWYFAENMARNCGAPCHVQPEDPTFQEKYRFHAINGYV-M--DTLPGLVMAQH-
FVIII_PIG        GLIGPL---LICRANTLNAAHGRQVTVQEFALFFTFIDETK-----SWYFTENVERNCRAPCHLQMEDPTLKENYRFHAINGYV-M--DTLPGLVMAQN-
FVIII_MOUSE      GLIGPL---LICHANTLNPAHGRQVSVQEFALLFTTFIDETK-----SWYFTENVKRNCCKTPCNFQMEDPTLKENYRFHAINGYV-M--DTLPGLVMAQD-
FVIII_RAT        GLIGPL---LVCHASTLHPSHARPLAVQEFALLFAVFDETK-----SWYCAENLDRKCRPPRGTPAGDPAWREEYRFHAVNGYV-A--DALLGLVMAEG-
FVIII_CHICKEN    GLIGPL---IICRRGVLNSAFKRQLAVQEFSLFFTTFIDETK-----SWYFPENMRRNCRPPCRIQLDNPDFRRNHSFHAINGYV-G--DTLPGLVMAQQ-
FVIII_OPOSSUM    GMTEQLNKELVCQSPVLLPHHGLQ-----SLNLSASSRPSLAIPTSFLFHPskeNnSEwQcNvSEQsAgIkEKkTlSkSRGqTEvCCDLLILLtIQIDw
FVIII_ZEBRAFISH  GLIGPM---LICRPGTLNPRVLLQPDVTDFFLLFTTFDERK-----SWYLDYNIRKFCIPPCQARVDDPWFQTsNKfFAAINGYV-S--ETLPGLRVEQY-

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                2210      2220      2230      2240      2250      2260      2270      2280      2290      2300
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FVIII_HUMAN      -QRIRWYLLSMGsnENiHSIHfSGHVfTVRkKEEYkMALYNLYPGVFETVEMlPSKAGIWRVECLIGeHLHAGMSTLFLVYSNKcQTPLGMASGHIRDFQ
FVIII_GORILLA    -QRIRWYLLSMGsnENiHSIHfSGHVfTVRkKEEYkMALYNLYPGVFETVEMlPSKAGIWRVECLIGeHLHAGMSTLFLVYSNKcQTPLGMASGHIRDFQ
FVIII_DOG        -QKVRWYLLSMGsnENiHSIHfSGHVfTVRkKEEYkMAVYNLYPGVFETVEMlPSQVGIWRIECLIGeHLQAGMSTLFLVYSKkCQTPLGMASGHIRDFQ
FVIII_COW        -QRIRWYLLSMGsnENiHSIHfSGHVfTVRkTEEYkMAVYNLYPGVFETVEMlPSKVGtWRIECLIGeHLQAGMSTLFLVYSKECQIPLGMASGRIRDFQ
FVIII_PIG        -QRIRWYLLSMGsnENiHSIHfSGHVfSVRkKEEYkMAVYNLYPGVFETVEMlPSKVGIWRIECLIGeHLQAGMSTTFLVYSKECQAPLGMASGRIRDFQ
FVIII_MOUSE      -QRIRWYLLSMGnNENiQSiHfSGHVfTVRkKEEYkMAVYNLYPGVFETLEMIPSRAGIWRVECLIGeHLQAGMSTLFLVYSKQCQIPLGMASGSIRDFQ
FVIII_RAT        -RRTRWHLLSMGDPGHAQSVHfSAHSVTVRDGGEHRTAVCNLYPGVFTTVEMLPSRAGIWRVESLVEHLQAGMSALFLVYSTRCQVPLGMASGYIRDSQ
FVIII_CHICKEN    -QRIRWHLLNMGSTEDIHsvHfHGQmFSIRTSQeYRMGvYNLYPGVFGTVEMQPSHAGIWRVECKVGEHLQAGMSALFLVYNQDCQNALGMASGYIADSQ
FVIII_OPOSSUM    SKRGWRIMQVgSKgKHEAHRRSSFFLVNYKASyHDFgVellGtSfWLLKSLPtlLgLL---LAAEHAEfGmKSGfW-RSkECQNALGMASGQIADPQ
FVIII_ZEBRAFISH  -RTARWHLLNLGTQGEfHAVHfHGLPFRVgKdQeHRMGIFnLYPGVFGTVEMRPAIAGTWLIeCTIGeHQLAGMRakLLVYNPQCnQPIGMQSRWITNKQ

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                2310      2320      2330      2340      2350      2360      2370      2380      2390      2400
.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|
FVIII_HUMAN      ITASGQY--GQWAPKLARLHYSGSINAWSTKEPFSWIKVDLLAPMIHGIKTQGARQKFSSLYISQFI-----IMYSLDGKKWQTYRGNSTGTLMVFFGN
FVIII_GORILLA    ITASGQYgKgQWAPKLARLHYSGSINAWSTKEPFSWIKVDLLAPMIHGIKTQGARQKFSSLYISQFI-----IMYSLDGKKWQTYRGNSTGTLMVFFGN
FVIII_DOG        ITASGQY--GQWAPKLARLHYSGSINAWSTKDPFSWIKVDLLAPMIHGIKTQGARQKFSSLYVSQFI-----IMYSLDGNKWHsYRGNSTGTLMVFFGN
FVIII_COW        ITASGQY--GQWAPKLARLHYSGSINAWSTKDPFSWIKVDLLAPMIHGIKTQGARQKFSSLYISQFI-----IMYSLDGNRWQGYRGNSTGTLMVFFGN
FVIII_PIG        ITASGQY--GQWAPKLARLHYSGSINAWSTKEPFSWIKVDLLAPMIHGIKTQGARQKFSSLYISQFI-----IMYSLDGNRWQGYRGNSTGTLMVFFGN
FVIII_MOUSE      ITASGHY--GQWAPNKLARLHYSGSINAWSTKEPFSWIKVDLLAPMIVHGIKTQGARQKFSSLYISQFI-----IMYSLDGKKWLSYQGNSTGTLMVFFGN
FVIII_RAT        ITASGYH--GLWTPQLARLHNAGSVNAWSAKEPFAWIKVDLLAPMILHGIETQGARHRLSSLYVSQFI-----IMYSLDGKQWLSYRGNSTGSLMVFFGN
FVIII_CHICKEN    ITASGQE--GPWAPKLARLHNSGSINAWSTGEGNPWIOVDLLHLKIIHGIKTQGARQLSSLYVSQFI-----VFYSLDGQRWKKYKGNtTStQMMFFAN
FVIII_OPOSSUM    ITASGQY--GQWAPKLARLNSAGSINAWSTQDANPWIKVDLLEPMIVHGIKTQGARQKFSSLYISQFT-----VRHSLDGQTWKNYRGNSTGALMVFFGN
FVIII_ZEBRAFISH  ITASDYY--GDWKPELARLELTGSINAWMGSSPNswLQVDLLRPMILHGIQTQgAK---TSMGLSEffTILYSISYSNDQENWSVYRGNSTKPYyTFNGN

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