

**File:** /media/morpheus/disk1/fst/pep\_msa/HABP410187.fasta Tue Feb 1 12:16:33 2022  
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	* : * . * .	. .	. .	*	: *	.	:
Pavo_muticus	-TPALPPQPG--OKQAPKEEDCGGKDNSR--AEQDKTEWRPSFMFESSYETESQAELTG	137					
Pavo_cristatus	-TPALPPQPG--OKQAPKEECGGKDNSR--AEQDKTEWRPSFMFESSYETESQAELTG	137					
Gallus_gallus	-TPAPPPQPG--OKQAPKEECGGKDNSR--AEKEHKTAWRPSFMFEYLSSSETESQAELTA	137					
Chelonia_mydas	AAPGAPPQPG--OKRAPKRGEQGWNDRGTVEVKQDAEWRPSFREYRPYEKEROVEFTI-	149					
Mus_musculus	DSPG-GPQPP-GOKRTPRRGEQGWNDRGTDVVLEAERR-SYREYRPYETERQADLPV	164					
Rattus_norvegicus	DSPG-GPQPP-GOKRTPRRGEQGWNDRGTDVVLDERAERR-SYREYRPYDTERQAESTA	163					
Homo_sapiens	DSPGGGLQAP-GOKRTPRRGEQGWNDSRGPEGMLEAERR-SYREYRPYETERQADFIA	164					
Pan_troglodytes	DSPGGGLQAP-GOKRTPRRGEQGWNDSRGPEGMLEAERR-SYREYRPYETERQADFIA	164					
Macaca_mulatta	DSPGGGLQAP-GOKRTPRRGDQQGWNDSRGPEGMLEAERR-PYREYRPYETERQADFIA	165					
Callithrix_jacchus	DSPGGGLQAVG-GOKRTPRRGEQGWNDSRGPEGTLERAERR-PYREYRPYETER-----	159					
Bos_taurus	DSPGGGPQPP-GOKRTPRRGEQGWSDSRGTEVTLDRAERR-SYREYRPYDTERQADFPP	168					
Equus_caballus	DSPGAGPQPP-GOKRTPRRGEQGWSDSRGSEVTLDRVERR-SYRECRPSETERQADFTP	172					
Canis_lupus_familiaris	DSPGVGPPPPAGOKRAPRRGEQGWNDSRGTEVTLDRAERR-SYREYRPYETERQADLTIP	168					
Heterocephalus_glaber	ALPLSQPPPA-GORRTPRRGEVGQWNSQGTETVTLDRTERR-SYREYRPYETERQVDFTA	145					
Rhinatrema_bivittatum	QQPPTQAOPP-GOKRPPKRVDRGGENENWGAEVKLDRAERRTAFREFRSNDLDRPVEFS-	143					
Xenopus_tropicalis	SIEVQTQQT-GQHAPKNTVKATQNENVSQVKVDRAERRTAFKEVRPNIMDRATEYS-	144					
	.....130.....140.....150.....160.....170.....180						

# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus      K--SLFRPIEKLDYERP-RGRGRGRGGMQGR--GRGGGINNSFDGFDGRGKREFERQSDS 192
Pavo_cristatus    K--SLFRPIEKLDYERP-RGHGRGRGGMQGR--GRGGGINNSFDGFDGRGKREFERQSDS 192
Gallus_gallus     Q--SLFRPTAKLNYERP-RGCGRGRGGMQGR--GRGGGINKSFDGFDGRGKREFGRQNDN 192
Chelonia_mydas    ----VEKPVDRFDRERPMRGRGGGRGGMRSR--GRGGGMNRSNLGYDORGKREFERQSGS 203
Mus_musculus      EKFTDEKPVDRFDRDRPLRGRGGPRGGLRSR--GRGGPGNRAFDSDFDORGKRDFFERYSSN 222
Rattus_norvegicus EKFTDEKPVDRFDRDRPLRGRGGPRGGLRNR--GRGGPGNRAFDSDFDORGKRDFFERYGSS 221
Homo_sapiens      EKFPDEKPGDRFDRDRPLRGRGGPRGGMGR--GRGGPGNRVFDADFDRGKREFERYGGN 222
Pan_troglodytes   EKFPDEKPGDRFDRDRPLRGRGGPRGGMGR--GRGGPGNRVFDADFDRGKREFERYGGN 222
Macaca_mulatta    EKFPDEKPGDRFDRDRPLRGRGGPRGGMGR--GRGGPGNRVFDADFDRGKREFERYSGN 223
Callithrix_jacchus -----PGDRFDRDRPLRGRGGPRGGIRGR--GRGGPGNRVFDADFDRGKREFERYGGN 210
Bos_taurus        EKFTDEKPIDRFDRDRPLRGRGGPRGGMRSR--GRGGPGNRTFDGFDORGKREFERYGGN 226
Equus_caballus    EKFMDEKPIDRFDRDRLLRGRGGPRGGMRSR--GRGGPGSRAFDGFDORGKREFERYGGN 230
Canis_lupus_familiaris EKFTDEKPIDRFDRDRPLRGRGGPRGAMRSR--GRGGPGNRAFDGFDORGKRDFFER---- 222
Heterocephalus_glaber EKCTDEKLIDKFDRDRAPRGRGGPRGALRGRSRGRGGGGIRAFDTFDPGRKRDFFERYSGN 205
Rhinatrema_bivittatum ----VEKPVDFDRDRPVRGRGGGRGSTGR--GRGGGLMNFDFGLDORGKREFERHSGS 197
Xenopus_tropicalis ----IEKPMIEMDQDKQTRNYGAGRGGMRGR--GRGG-FPRNTENDNIRGKREFDRHSGS 197
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      DK-----IEMELTAPMEATAKTAKSPGMSEGEPLNKVAEGK 228
Pavo_cristatus    DK-----IEMELTAPMEATAKTAKSPGMSEGEPLNKVAEGK 228
Gallus_gallus     DK-----IEMELTAPMEATAKTAKSPGVSEGEPLNKVAEGK 228
Chelonia_mydas    DKTGIRTEDKRGSGARNWGTVKDDLSEMEQTAPVEDTAETEDHCGAPEGEPLTKVAEGE 263
Mus_musculus      DK-TNRMEDSMGGCGIRPWGSGKD-TSDTEPPAPMEETSMMEECCGALDEESAASKVPELE 280
Rattus_norvegicus DK-ANRMEDSMGGCGVRTWGS GDK-TSDTEPPAPMEETSMMEECCGVLDEESAASKVPELE 279
Homo_sapiens      DKIAVRTEdNMGGCGVRTWGS GDK-TSDVEPTAPMEEPTVVVEESQGTPEEESPAKVPELE 281
Pan_troglodytes   DKIAVRTEdNMGGCGVRTWGS GDK-TSDVEPTAPMEEPTVVVEESQGAPEEESPAKVPELE 281
Macaca_mulatta    DKIAVRTEdNMGGCGVRTWGS GDK-TSDVEPTALMEEPTVVVEEAQGAPEEESPAKIPELE 282
Callithrix_jacchus DKIIIVRTEDNMGGCGVRTWGS GDK-TSDVEATAPMEEPTVVVEESQGAPEEESPAKVPELE 269
Bos_taurus        DKIASRTEDNMGGYGVHTWGS GDK-TSDTDPAAPMEETTIVVEESLGPLDEESPAKVPELE 285
Equus_caballus    DKTAMRTEDNVGGCGVRTWGS GRD-TSDGEPAAPMEEAAVAEESLGPLDEESPAKVPESE 289
Canis_lupus_familiaris ---AIRTEdNMGGCGVRTWGS GDK-TSDMEQTAPMEEITAVEESPGPLEEESPAKVPELE 278
Heterocephalus_glaber DKIAFRPEDNTGGCGIRTWGS GDK-TSDLELTALIEETPAMEEAHGALEEDSPAKVPELE 264
Rhinatrema_bivittatum DRAGIRAEDKRGNGARNWGTVKDDLSEMEQTTPMEETAEEMEEHQELPDGSEETKVDG-E 256
Xenopus_tropicalis DRARIRPEDKRGGGGPRNWGSIKEAFSEIE-AVPVEEQVEPTETTEATEEEHG-KVPE-E 254
.....250.....260.....270.....280.....290.....300

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Pavo_muticus      PMEEVV-QEMTLDEWKNLQQQNRPKHEFNIRRPSTVPSKAVVIHKSYSDDIQKGELED 287
Pavo_cristatus    PMEEVV-QEMTLDEWKNLQQQNRPKHEFNIRRPSTVPSKAVVIHKSYSDDIQKGELED 287
Gallus_gallus     PREEVV-QEMTLDEWKNLQQQNRPKHEFNIRRPSTVPSKAVVIHKSYSDDIQKGELED 287
Chelonia_mydas    PVEEVAAQEMTLDEWKNLQQQSRPKPEFNIRKPESTVPSKAVVIHKSYSRDDMLKEDFED 323
Mus_musculus      VEEENQVQEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRDDMVKDDYED 340
Rattus_norvegicus VEEENQVQEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRDDIVKDDYED 339
Homo_sapiens      VEEETQVQEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRDDMVKDDYED 341
Pan_troglodytes   VEEETQVQEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRDDMVKDDYED 341
Macaca_mulatta    VEEETQVQEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRDDMVKDDYED 342
Callithrix_jacchus VEEETQVQEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRDDMVKDDYED 329
Bos_taurus        VEEETQVQEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRDDMVKDDYED 345
Equus_caballus    VEEETQVQEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRFDVMKDDYED 349
Canis_lupus_familiaris LEEETQVQEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRDDMVKDDYED 338
Heterocephalus_glaber VEEETQVHEMTLDEWKNLQEQTRPKPEFNIRKPESTVPSKAVVIHKSYSRDDIVKDDYEE 324
Rhinatrema_bivittatum LVEEMT-HEMSLDEWKSLOEQVRPKPEFNIRKPDSSVLSKAVVIHKSYSKYNEILKEEEEE 315
Xenopus_tropicalis INEGFS-QEMSLDEWKSLOEQNRKTEFNLKRPETSVPSKAVVIHKSYSKYNNISENEEE 312
.....310.....320.....330.....340.....350.....360

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      : **:.....*: :*:.....*..**   **   * *** :: *
Pavo_muticus      DYHIFRRRAVNDITSQLDINFGSLPRPGRGSRG-ARG-RGRGRRVEETGPOPE-IMVHIVA 344
Pavo_cristatus    DYHIFRRRAVNDITSQLDINFGSLPRPGRGSRG-ARG-RGRGRRVEETGPOPE-IMVHIVA 344
Gallus_gallus     DYHIFRRRAVNDITFQLDINFGSLPRPGCGSRG-ARG-RGRGROMEETGPOPE-AMVQIVA 344
Chelonia_mydas    DSHIFRKAANDITSQLDINFGNLPRPGRGARG-TRGGRGRVKRVEDTGPRPE-VVTQIIA 381
Mus_musculus      ESHVFRKAANDITSQLEINFGNLPRPGRGARGSTRGGRGRMRRTENYGPRAE-VVTQDVA 399
Rattus_norvegicus ESHVFRKAANDITSQLEINFGNLPRPGRGARGSTRGGRGRIRRTENYGPRAE-VVTQDVA 398
Homo_sapiens      DSHVFRKPANDITSQLEINFGNLPRPGRGARGGTRGGRGRIRRAENYGPRAE-VVMQDVA 400
Pan_troglodytes   DSHVFRKPANDITSQLEINFGNLPRPGRGARGGTRGGRGRIRRAENYGPRAE-VVMQDVA 400
Macaca_mulatta    DSHVFRKPANDITSQLEINFGNLPRPGRGARGGTRGGRGRIRRAENYGPRAE-VVMQDVA 401
Callithrix_jacchus DSHVFRKAANDITSQLEINFGNLPRPGRGARGGNRGGGRIRRAENYGPRAE-VVVSFIT 388
Bos_taurus        DAHVFRKAANDITSQLEINFGNLPRPGRGARGGTRGGRGRIRRAENYGARAE-VVIQDVA 404
Equus_caballus    DAHVFRKAANDITSQLEINFGNLPRPGRGARGGPRGGGRIRRAENYGPRAE-VVTQDVA 408
Canis_lupus_familiaris DAHVFRKAANDITSQLEINFGNLPRPGRGARGGPRGGGRIRRAENYGPRAE-VVTQDVA 397
Heterocephalus_glaber DAHVFRKAANDITSQLEINFGNLPRPGRGARGGGRGGRIRRVENYGPRAE-VVIQDIA 383
Rhinatrema_bivittatum DHYFRKSAANDITSQNLNINFGSLARPGRGSRGGARGGRARRSEELRTDCTPDVVQIIA 375
Xenopus_tropicalis YHYCFRKPVNITARLDINFGSLARP---SRGRGAGGRVRRREAF--HEVVNVLSDA 367
.....370.....380.....390.....400.....410.....420

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      .   : ..* :*
Pavo_muticus      P---NPDDPEDFPALT----- 357
Pavo_cristatus    P---NPDDPEDFPALT----- 357
Gallus_gallus     P---NPDDPEDFPALT----- 357
Chelonia_mydas    P---NPDDPEDFPALA----- 394
Mus_musculus      P---NPDDPEDFPALA----- 412
Rattus_norvegicus P---NPDDPEDFPALA----- 411
Homo_sapiens      P---NPDDPEDFPALS----- 413
Pan_troglodytes   P---NPDDPEDFPALS----- 413
Macaca_mulatta    P---NPDDPEDFPALS----- 414
Callithrix_jacchus SPRPVKVSEQRSFFSLKPDLCVPLESHWCGSQSSCFCSRCKMLPPTQTTLKTSLHFPERV 448
Bos_taurus        P---NPDDPEDFPALA----- 417
Equus_caballus    P---NPDDPEDFPALA----- 421
Canis_lupus_familiaris P---NPDDPEDFPALA----- 410
Heterocephalus_glaber P---NPDDPEDFPALA----- 396
Rhinatrema_bivittatum P---NPDDPEDFPALA----- 388
Xenopus_tropicalis P---NPDDPEDFPALV----- 380
.....430.....440.....450.....460.....470.....480

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Pavo_muticus      ----- 357
Pavo_cristatus    ----- 357
Gallus_gallus     ----- 357
Chelonia_mydas    ----- 394
Mus_musculus      ----- 412
Rattus_norvegicus ----- 411
Homo_sapiens      ----- 413
Pan_troglodytes   ----- 413
Macaca_mulatta    ----- 414
Callithrix_jacchus LLPGTEELHCTPMERLFWL 467
Bos_taurus        ----- 417
Equus_caballus    ----- 421
Canis_lupus_familiaris ----- 410
Heterocephalus_glaber ----- 396
Rhinatrema_bivittatum ----- 388
Xenopus_tropicalis ----- 380
.....490.....

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