

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HELIQaps Tue Feb 1 12:18:10 2022

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| | | |
|------------------------|---|----|
| Pavo_muticus | -MAEP---ALAVRRRSRISSARKRSHPPARLEAVCSPLKR--PSAGC-----EGAPA | 46 |
| Pavo_cristatus | -MAEP---ALAVRRRSRISSARKRSHPPARLEAVCSPLKR--PSAGC-----EGAPA | 46 |
| Gallus_gallus | -MAEP---ALAVRRRSRISSARKRSHPPAQPGATSSPLARKRPSGGG-----EGTPA | 48 |
| Chelonia_mydas | -MEGG---GPAVRRRSRSASARERSRDRARSRGACSPARKRPSGAGE-----EPQAPPA | 52 |
| Mus_musculus | -MEDG---CPRIRRRVSVRKRNNGNLENLRASPTPAELQPAEDTEDEAA-----AGSRR | 50 |
| Rattus_norvegicus | -MEES---SPRIRRRVSLRKNNRSLSLGAARAPAELOPAEDTEDEAA-----AGSRR | 50 |
| Homo_sapiens | -MDEC---GSRIRRRVSLPKNNRPSLGCIFGAPTAAELVPGDEGKEEEE-----MVAENRR | 52 |
| Pan_troglodytes | -MDEC---GSRIRRRVSLPKNNRPSLGCIFGAPTAAELVPGDEGKEEEE-----MVAENRR | 52 |
| Macaca_mulatta | -MDEG---GSRIRRRVSLPKNNRPSLGCIFVAPTAAELVPGDEGKEEEE-----MVAENRR | 52 |
| Callithrix_jacchus | -MDEG---GSRIRRRVSLPKNNRPSVGCVFVAPTAAELVPGDEGKEEEE-----MVAENRR | 52 |
| Canis_lupus_familiaris | -MDEG---GARIRRRVVRVRSRPGLSVFAAPTAAELVPGDEEEEEEGELKETVVGSR | 56 |
| Equus_caballus | -MDEG---GSRIRRRVSVRKRTPLSLGSIFAAPTAAELKPGDEKEEQEE--KEMGAGRRR | 54 |
| Bos_taurus | ----- | |
| Xenopus_tropicalis | -MESR---SLRIQRRKPVRKRVLPFGHSLLTPTKKRMNSREDDNIKCHE----- | 45 |
| Rhinatrema_bivittatum | MAESRMCGAPRVQRRWPARKRSLPASRSFLTPDNKRS SGSSAATTASSP-----GPS | 53 |
| | 1.....10.....20.....30.....40.....50.....60 | |

| | | |
|------------------------|--|-----|
| Pavo_muticus | EPPCN-----NDSEEDMFGDYD | 63 |
| Pavo_cristatus | EPPCN-----NDSEEDMFGDYD | 63 |
| Gallus_gallus | EPLCN-----NDSEEDMFGDYD | 65 |
| Chelonia_mydas | SPEYN-----NDSEEDMFGDYD | 69 |
| Mus_musculus | RKTGS---PEHAQE-----NDSEEDMFGDYD | 73 |
| Rattus_norvegicus | RKTGS---PEPAQE-----NDSEEDMFGDYD | 73 |
| Homo_sapiens | RKTAGVLPVEVQPLLLSDSPECLVLGGGDTNPDLRHMPDRGVGDQPNDSVDMFGDYD | 112 |
| Pan_troglodytes | RKTAGVLPVEVQPLLLSDSPECLVLGGGDTNPDLRHMPDRGVGDQPNDSVDMFGDYD | 112 |
| Macaca_mulatta | RKTAGVLPVEVQPLLLSDSPECLVLGGGDTNPDLRRMPTDRGVGDQPNDSVDMFGDYD | 112 |
| Callithrix_jacchus | RKTAGVIPVEVQPCLLSDSPDCLVLGSGDTNPDLRHMPDRGMGDQPNDSVDMFGDYD | 112 |
| Canis_lupus_familiaris | EKTVEVE-VEVEPAQN-----NDSEEDMFGDYD | 83 |
| Equus_caballus | RKTVG---VQPVES-----YDSEEDMFGDYD | 77 |
| Bos_taurus | ----- | |
| Xenopus_tropicalis | -----SDEDLFGEYD | 55 |
| Rhinatrema_bivittatum | SAEYN-----SGSDEDMFGGYD | 70 |
| |70.....80.....90.....100.....110.....120 | |

| | | |
|------------------------|---|-----|
| Pavo_muticus | SFHESD SLLAQVLD AEHQHPQ-----EKGMDMKAAGEFAHGNLQSEMDQNKQGNLHAT | 116 |
| Pavo_cristatus | SFHESD SLLAQVLD AEHQHPQ-----EKGMDMKAAGEFAHGNLQSEMDQNKQGNLHAT | 116 |
| Gallus_gallus | SFHESD SLLAQVLD AEHPQHSQ-----EKGLDVKAAGRFAHGNLQSEMDQSKQGNLHAA | 118 |
| Chelonia_mydas | SFSGNDSLLAQFDNMEQECIQSIDLTSCTKNMEEKATVEPAFGYLQQLNAKSKELIFSAA | 129 |
| Mus_musculus | SFTES-SFLAHVDDLEQRYMQ-----LPECGRDADSGTKDLC SAGLKN-NLRVTTV | 123 |
| Rattus_norvegicus | SFSFN-SFLAQVDDLEQKYIQ-----LPDCGSRGTD SGTKDLCSEGLGN-SLSVP-A | 122 |
| Homo_sapiens | SFTEN-SFIAQVDDLEQKYMQ-----LPEHKHATDFATENLCSESIKN-KLSITTI | 162 |
| Pan_troglodytes | SFTEN-SFIAQVDDLEQKYMQ-----LPEHRKHATDFATENLCSESIKN-KLSITTI | 162 |
| Macaca_mulatta | SFTEN-SFIAQVDDLEQKYMQ-----LPAHKHATDFATENLYSESIKN-KLSITTI | 162 |
| Callithrix_jacchus | SFTEN-SFIAQADDLEQKYMQ-----LPEHQKHATDFATENLCSESIKN-KLSVITI | 162 |
| Canis_lupus_familiaris | SFAEN-SFLAQVDDLEQQYMQ-----VPQLRKHASDLTIKDLC SSGSIKHKNLSITTV | 134 |
| Equus_caballus | SFAEN-SFLAQVDDLEQKYMQ-----LPERREHATDVATEDLCSDSIKH-KLSVITTL | 127 |
| Bos_taurus | ----- | |
| Xenopus_tropicalis | SFAEDLDLLAQVDDLE--NQEKLEQCNTFP-----CSSDQRPEDPNHNEDK-IKHSTSG | 107 |
| Rhinatrema_bivittatum | SFSEDLPMLVQVHDTEGKCTESTSLTSFVGNLDPKATVNSVNRAPQLQIDKNSESVITDQ | 130 |
| |130.....140.....150.....160.....170.....180 | |

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Pavo_muticus      EDS-VHEVDEHYGFQMDENDAGDTINEDLSDSVFDELPSQLLYLEKMGELSSRSQR-SAG 174
Pavo_cristatus    EDS-VHEVDEHYGFQMDENDAGDTINEDLSDSVFDELPSQLLYLEKMGELSSRSQR-SAG 174
Gallus_gallus      GDSSVRKVDEHYGFQMNENDAGDADEDLSDSVFDELPSQLLYLEKTRLSRSQR-SAG 177
Chelonia_mydas     GNIIGFKTEESHLLKTTT-EQDNRTLEPGDCFLDDLPSQLLYFEEMNKTIVDSRK-SSG 187
Mus_musculus       INLTDPETSEHG--QKQSHLDVPAEPEPGSDLSFDVPSSQILYFENP-QNSPEALG-DPC 179
Rattus_norvegicus  VDFTDSEIREYI--KKQGDLDPVEPEVGGLSFDMPSSQILYFESM-QNSSKDLG-DQS 178
Homo_sapiens       GNLTELQTDKHT--ENQSGYEG-VTIEPGADLLYDVPSSQAIYFENL-QNSSNDLG-DHS 217
Pan_troglodytes    GNLTELQTDKHT--ENQSGYEG-VTIEPGADLLYDVPSSQAIYFENL-QNSSNDLG-DHS 217
Macaca_mulatta     GNLTELQTDKHT--ENQSGYEG-VTIEPGADLLYDVPSSQAIYFENL-QNSSNDLG-DHS 217
Callithrix_jacchus GNLTELQTDKHT--ENQSGCED-VTIEPGADLLYDVPSSQAIYFENL-QNSSNDLG-DQF 217
Canis_lupus_familiaris GNFTTELKVDEHT--KNQSRHKD-VFIEPEPDLLYDVPSSQVLYFENL-QNSSNDLG-DQS 189
Equus_caballus     DNFTTELKTDVHT--KNQSEYED-VSTESGADLLCDVPSSQVLYFENL-QNSLNDLG-DQS 182
Bos_taurus         -----
Xenopus_tropicalis ELSSLFQSGQTARSLRITNELKGKRKD----FLDVIPLCSQ----LPCNEDSNLRTG---- 155
Rhinatrema_bivittatum ENVTAWKDEKQCTFIKTTGDWEKRKNETGDAFSDLLPCSQRFYDAHMRTLNLESNKERE 190
.....190.....200.....210.....220.....230.....240

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:: **
Pavo_muticus      TEKMDKWKNSSLDKIQSPS-PCPDSGHKNRSKSSKGSKSDSCKSVSLKDHKNAMTGNA 233
Pavo_cristatus    TEKMDKWKNSSLDKIQSPS-PCPDSGHKNRSKSSKGSKSDSCKSVSLKDHKNAMTGNA 233
Gallus_gallus      TERMDKWENSSLDKIQCPSSPCPDSGHKNRSTKSSKGSVCDSCSKSVSLKDHKNALTGNA 237
Chelonia_mydas     TKESANDMNSCLDKMLNQSSCHHNAEHTKINNELSPSTTSNISKRRSLKDHKNMTGNA 247
Mus_musculus       TKKTNGD--PQKSSHEELVSSHTEQPEPNND-FSNVRAASESSRRKSLKDHKLSTMAGNA 236
Rattus_norvegicus  TKGRDG----KSSNEELHSHREQOPKPSD-FSDVGGSSSEASRRRSIKDCLKSAMTGNA 232
Homo_sapiens       MKERDWKSSSHNTVNEELPHNCIEQPOQNDSSSKVRTSSDMNRRRSIKDHLKNAMTGNA 277
Pan_troglodytes    MKERDWKSSSHNTVNEEPHNCIEQPOQNDSSSKVRTSSDMNRRRSIKDHLKNAMTGNA 277
Macaca_mulatta     MKERDWKSSSHNTVNEELPHNCIEQPOQNDASSKVRISSDMNRRRSIKDHLKSAMTGNA 277
Callithrix_jacchus MKKRDKWSSSHNTVNEKLPHNCIEQROQNDSSSKVRTSSDMNRRRSIKDHLKSAMTGNA 277
Canis_lupus_familiaris TKEKDWNSFSHKIGNEELPQNSTEHHQIDDPCKVGTSSSEENRRRSIKDHLKSAMTGNA 249
Equus_caballus     TKERDWNSSSHKTVNEELPRSSIEQPOQIDESSSTVKTSSDVRKRSKDLKSLKSTMTGNA 242
Bos_taurus         -----
Xenopus_tropicalis -----FPCVK-----ANGAQDISR-----MDKRKSLKDHKLSTLAVNA 188
Rhinatrema_bivittatum IIEKSNQTHSCKITILNFSSSQDTEYNRGGDPLSKSKNSDFSRKSLADQLKNTLAGNA 250
.....250.....260.....270.....280.....290.....300

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Pavo_muticus      KVQTPKVSCTKQLKEAILSEEISVARETIGSSS-FDIGPFYGLPSKVKHLRLFRGIETL 292
Pavo_cristatus    KVQTPKVSCTKQLKEAILSEEISVARETIGSSS-FDIGPFYGLPSKVKHLRLFRGIETL 292
Gallus_gallus      KAQTPKVSCTKQLKEAILSEEISVARETIGSSS-FDIGPFYGLPSKVKHLRLFRGIETL 296
Chelonia_mydas     KAQTPQVSRTKQLKEAVLSEEICVAKKTIETSS-VDIGPFYGLPSKVRDLLVQFRGIEKL 306
Mus_musculus       RAQTPAFPRSKHLREALLEEISVAKKAIESPS-DDLGPFYSLPSKVRDLYVQLKGIEKL 295
Rattus_norvegicus  RAQTPAFPRSKQLRETLLEEISVAKKAIESPS-DDLGPFYSLPSKVRDLYAQLKGIEKL 291
Homo_sapiens       KAQTPIFSRSKQLKDTLLSEEINVAKKTIESSS-NDLGPFYSLPSKVRDLYAQLKGIEKL 336
Pan_troglodytes    KAQTPIFSRSKQLKDTLLSEEINVAKKTIESSS-NDLGPFYSLPSKVRDLYAQLKGIEKL 336
Macaca_mulatta     KAQTPVFSRSKQLKDTLLSEEINVAKKTIESSS-NDLGPFYSLPSKVRDLYAQLKGIEKL 336
Callithrix_jacchus KAQTPVFSRSKQLKETLLSEEINVAKKTIESSS-NDLGPFYSLPSKVRDLYVQLKGIEKL 336
Canis_lupus_familiaris KAQTPVFSRTKQLKETLLSEEINVAKKTIESSS-DDLGPFYSLPTKVRDLYVQFKGIEKL 308
Equus_caballus     KAQTPIFSRTKQLKETLLSEEINVAKKTIESSS-DDLGPFYSLPSKVRDLYVQFKGIEKL 301
Bos_taurus         KAQTPIFSRTKQLKETLLSEEINVAKKTIESSS-DDLGPFYSLPSKVRDLYVQFKGIEKL 64
Xenopus_tropicalis KVQTPRISRTKELKKAILLEEFDAQQTVKTSCLDLGPFYGLPSRVRDLYQFRRIKKL 248
Rhinatrema_bivittatum RAPTPQISRKQLKEAILSEEIDVAKKTIKSS-VDIGPFYGLPSKVKDLFDHLRGIEKL 309
.....310.....320.....330.....340.....350.....360

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|------------------------|--|-----|
| Pavo_muticus | YEWQHDCLTLKSLQQRKNLIYSLPTSGGKTLVAEILILQELLCRQKDVLMILPYVAIVQE | 352 |
| Pavo_cristatus | YEWQHDCLTLKSLQQRKNLIYSLPTSGGKTLVAEILILQELLCRQKDVLMILPYVAIVQE | 352 |
| Gallus_gallus | YEWQHDCLTLKSLQQRKNLIYSLPTSGGKTLVAEILILQELLCRQKDVLMILPYVAIVQE | 356 |
| Chelonia_mydas | YEWQHTCLTLESQQRKNLIYSLPTSGGKTLVAEILILQELLCRQKDVLMVLPYVAIVQE | 366 |
| Mus_musculus | YDQWHTCLTLRSVQERKNLIYSLPTSGGKTLVAEILMLQELLCRQKDVLMILPYVAIVQE | 355 |
| Rattus_norvegicus | YDQWHTCLTLSSVQERKNLIYSLPTSGGKTLVAEILMLQELLCRQKDVLLILPYVAIVQE | 351 |
| Homo_sapiens | YEWQHTCLTLNSVQERKNLIYSLPTSGGKTLVAEILMLQELLCCRKDVLMILPYVAIVQE | 396 |
| Pan_troglodytes | YEWQHSCLTLNSVQERKNLIYSLPTSGGKTLVAEILMLQELLCCRKDVLMILPYVAIVQE | 396 |
| Macaca_mulatta | YEWQHTCLTLNSVQERKNLIYSLPTSGGKTLVAEILMLQELLCCRKDVLMILPYVAIVQE | 396 |
| Callithrix_jacchus | YEWQHTCLTLKSVQERKNLIYSLPTSGGKTLVAEILMLQELLCSQKDVLMILPYVAIVQE | 396 |
| Canis_lupus_familiaris | YEWQHTCLTLNSVQERKNLIYSLPTSGGKTLVAEILMLQELLCCRVDVLMILPYVAIVQE | 368 |
| Equus_caballus | YEWQHTCLTLNSVQERKNLIYSLPTSGGKTLVAEILMLQELLCCRKDVLMILPYVAIVQE | 361 |
| Bos_taurus | YEWQHTCLTLKSVQERKNLIYSLPTSGGKTLVAEILMLQELLCCRVDVLMILPYVAIVQE | 124 |
| Xenopus_tropicalis | YDQWHTCLTLQSIKERKNLIYSLPTSGGKTLVAEILVLQELLCRQKDVLMILPYVAIVQE | 308 |
| Rhinatrema_bivittatum | YEWQHTCLTLESQQRKNLIYSLPTSGGKTLVAEILILQELLCRQKDVLMILPYVAIVQE | 369 |

.....370.....380.....390.....400.....410.....420

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|------------------------|--|-----|
| Pavo_muticus | KVWGLSSFGIELGFLVEEYAGSKGRFPPIKRRIKKSLYIATIEKGHALVNSLIETDRIDD | 412 |
| Pavo_cristatus | KVWGLSSFGIELGFLVEEYAGSKGRFPPIKRRIKKSLYIATIEKGHALVNSLIETDRIDD | 412 |
| Gallus_gallus | KVWGLSSFGIELGFLVEEYAGSKGRFPPIKRRIKKSLYIATIEKGHALVNSLIETDRIDD | 416 |
| Chelonia_mydas | KVWGLSSFGIELGFLVEEYAGSKGRFPPIKRRIKKSLYIATIEKGHALVNSLIETDRIDD | 426 |
| Mus_musculus | KISSLSFGIELGFFVEEYAGSKGRFPPIKRREKKSLYIATIEKHSVLNLSLIETSRIST | 415 |
| Rattus_norvegicus | KISSLSFGIELGFFVEEYAGSKGRFPPIKRREKKSLYIATIEKHSVLNLSLIETGRMGT | 411 |
| Homo_sapiens | KISGLSSFGIELGFFVEEYAGSKGRFPPTKRREKKSLYIATIEKHSVLNLSLIETGRIDS | 456 |
| Pan_troglodytes | KISGLSSFGIELGFFVEEYAGSKGRFPPTKRREKKSLYIATIEKHSVLNLSLIETGRIDS | 456 |
| Macaca_mulatta | KISGLSSFGVELGFFVEEYAGSKGRFPPTKRREKKSLYIATIEKHSVLNLSLIETGRIDS | 456 |
| Callithrix_jacchus | KISGLSSFGIELGFFVEEYAGSKGRFPPTKRREKKSLYIATIEKHSVLNLSLIETGRIDS | 456 |
| Canis_lupus_familiaris | KISGLSSFGIELGFFVEEYAGSKGKFPPIKRREKKSLYIATIEKHSVLNLSLIETGRIDS | 428 |
| Equus_caballus | KISGLSSFGVELGFFVEEYAGSKGRFPPIKRREKKSLYIATIEKHSVLNLSLIETGRIDS | 421 |
| Bos_taurus | KISGLSSFGIELGFFVEEYAGSKGKFPPIKRREKKSLYIATIEKHSVLNLSLIETGRIDS | 184 |
| Xenopus_tropicalis | KVRGLASFGVELDFLVEEYAGSRGRFPPIKRRTKKSLYIATIEKHSVLNLSLIETGRIND | 368 |
| Rhinatrema_bivittatum | KVRGLSGFVELDFLVEEYAGSKGRFPPIKRRTKKSLYIATIEKHSVLNLSLIETGRIND | 429 |

.....430.....440.....450.....460.....470.....480

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|------------------------|--|-----|
| Pavo_muticus | LGLVVVDELHMI EGSGRGAMLEMTLAKILYASKNTHIVGMSATLNNVGDLOKFLQAEYYT | 472 |
| Pavo_cristatus | LGLVVVDELHMI EGSGRGAMLEMTLAKILYASKNTHIVGMSATLNNVGDLOKFLQAEYYT | 472 |
| Gallus_gallus | LGLVVVDELHMI EGSGRGAVLEMTLAKILYASKNTHIVGMSATLNNVGDLOKFLQAEYYT | 476 |
| Chelonia_mydas | LGLVVVDELHMLGEGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVGDLOKFLQAEYYA | 486 |
| Mus_musculus | LGLVVVDELHMI EGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 475 |
| Rattus_norvegicus | LGLVVVDELHMI EGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 471 |
| Homo_sapiens | LGLVVVDELHMI EGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 516 |
| Pan_troglodytes | LGLVVVDELHMI EGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 516 |
| Macaca_mulatta | LGLVVVDELHMI EGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 516 |
| Callithrix_jacchus | LGLVVVDELHMI EGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 516 |
| Canis_lupus_familiaris | LGLVVVDELHMI EGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 488 |
| Equus_caballus | LGLVVVDELHMI EGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 481 |
| Bos_taurus | LGLVVVDELHMI EGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 244 |
| Xenopus_tropicalis | LGLIVVDELHMLGEGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 428 |
| Rhinatrema_bivittatum | LGLVVVDELHMLGEGSGRGATLEMTLAKILYTSKTTQIIIGMSATLNNVEDLOKFLQAEYYT | 489 |

.....490.....500.....510.....520.....530.....540

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| | *****:***::*.* :*:... : :****.* :** : * ***::**.***** | |
|------------------------|--|-----|
| Pavo_muticus | KNFRPVELKEYIKIRDITIEVDSKAENGFTFSRLLNFKYSSGSLEKADPDHIVALVTEVIP | 532 |
| Pavo_cristatus | KNFRPVELKEYIKIRDITIEVDSKAENGFTFSRLLNFKYSSGSLEKADPDHIVALVTEVIP | 532 |
| Gallus_gallus | KNFRPVELKEYIKIRDITIEVDSKAENGFTFSRLLNFKYSSGSLEKADPDHIVALVTEVIP | 536 |
| Chelonia_mydas | NNFRPVELKEYVKIQDSVVEVDNKAENGLTFSRLLNFKYSSSNLQKMPDHIALIALVTEVIP | 546 |
| Mus_musculus | SQFRPVELKEFLKVNITIEVDSQAADGMTFSRLLNFKYSSSALKKMPDRLVALVTEVIP | 535 |
| Rattus_norvegicus | SQFRPVELKEFLKVNITIEVDSRAVDGMTFSRLLNFKYSSDALKKVDPDRLVALVTEVIP | 531 |
| Homo_sapiens | SQFRPVELKEYLKNITIEVDSKAENGMTFSRLLNFKYSSDTLKKMPDHLVALVTEVIP | 576 |
| Pan_troglodytes | SQFRPVELKEYLKNITIEVDSQAENGMTFSRLLNFKYSSDTLKKMPDHLVALVTEVIP | 576 |
| Macaca_mulatta | SQFRPVELKEYLKNITIEVDSKAENGMTFSRLLNFKYSSDTLKKMPDHLVALVTEVIP | 576 |
| Callithrix_jacchus | SQFRPVELKEYLKNITIEVDSKAENGMTFSRFLNFKYSSDTLKKMPDHLVALVTEVIP | 576 |
| Canis_lupus_familiaris | SQFRPVELKEYLKNITIEVDSKAENGMTFSRLLNFKYSSDTLKKMPDHLVALVTEVIP | 548 |
| Equus_caballus | SQFRPVELKEYLKNITIEVDSKAENGMTFSRVLGKYSSDTLKKMPDHLVALVTEVIP | 541 |
| Bos_taurus | SQFRPVELKEYLKNITIEVDSRAENGMTFSRLLNFKYSSDTLKKMPDHLVALVTEVIP | 304 |
| Xenopus_tropicalis | NNFRPVELKEFVKVRDCIIEVDSNAENLTFSRLLNFKYSSNNMMKIDPDHVVALVTEVIP | 488 |
| Rhinatrema_bivittatum | HDFRPVLKEYVKLKNITIEVDSNAENLTFSRLLNFKYSSSMQKMPDHIALIALVTEVIP | 549 |
| |550.....560.....570.....580.....590.....600 | |

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|------------------------|--|-----|
| Pavo_muticus | KYSCLIFCPTKKNCENVATMVCKYLNKEFRAHREKEKQDLIKNLKDIGNGSICPVLROTI | 592 |
| Pavo_cristatus | KYSCLIFCPTKKNCENVATMVCKYLNKEFRAHREKEKQDLIKNLLEDIGNGSICPVLROTI | 592 |
| Gallus_gallus | KYSCLIFCPTKKNCENVATMVCKYLNKEFRAHREKEKQDLIKNLKDIGNGSICPVLROTI | 596 |
| Chelonia_mydas | NYSCLVFCSTKKNCENVAEMICKYLNKEYRNHREKEKQDLIKDLKNIGKSLCPVLKRTI | 606 |
| Mus_musculus | NYSCLVFCPSKKNCENVAEMICKFLSKDYLNHREKEKCEVIKSLRNIGNGVKCPVLKRTV | 595 |
| Rattus_norvegicus | NYSCLVFCPSKKNCENVAEMICKFLSRDYLNHREEEKGELIKSLRNVGHGKVCPLKRTI | 591 |
| Homo_sapiens | NYSCLVFCPSKKNCENVAEMICKFLSKEYLKHKEKEKCEVIKLNKNIGNGNLCPVLKRTI | 636 |
| Pan_troglodytes | NYSCLVFCPSKKNCENVAEMICKFLSKEYLKHKEKEKCEVIKLNKNIGNGNLCPVLKRTI | 636 |
| Macaca_mulatta | NYSCLVFCPSKKNCENVAEMICKFLSKEYLKHKEKEKCEVIKLNKNIGNGNLCPVLKRTI | 636 |
| Callithrix_jacchus | NYSCLVFCPSKKNCENVAEMICKFLSKEYLKHKEKEKCEVIKLNKNIGSNLCPVLKRTI | 636 |
| Canis_lupus_familiaris | NHSCLVFCPTKKNCENVAEMICRFLSKOYLKHREKEKHEVIKLNKNISSGNLCPILKRTI | 608 |
| Equus_caballus | NYSCLVFCPTKKNCENVAEMICKILSKDCLKHREKEKQEVIONLKNLSGGSLCPVLKRTI | 601 |
| Bos_taurus | SYSCLVFCPTKKNCENIAEMICKSLSKEYLKHKEKEKQEVIONLKNVSGGNLCRVLRHIT | 364 |
| Xenopus_tropicalis | ANSCLVFCPTKKNCENVAEMICKYLNKLYVEHREAEEKKNLIADLKNIGNGVLCPSVLKRTI | 548 |
| Rhinatrema_bivittatum | NYSCLVFCPTKKNCENVAEMICKYLSKGYSIHKKEKQONLIKDLKSTGDGGLCPVLKRTI | 609 |
| |610.....620.....630.....640.....650.....660 | |

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|------------------------|--|-----|
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| Pavo_muticus | PFGVAYHHSGLTNDERKSTIEEAYSRGVLCCLLACTATLAAGVNLPARRVILRAPYVASEFL | 652 |
| Pavo_cristatus | PFGVAYHHSGLTNDERKSTIEEAYSRGVLCCLLACTATLAAGVNLPARRVILRAPYVASEFL | 652 |
| Gallus_gallus | PFGVAYHHSGLTNDERKSTIEEAYSRGVLCCLLACTATLAAGVNLPARRVILRAPYVASEFL | 656 |
| Chelonia_mydas | PFGIAYHHSGLTSDERKRIEEEAYSAGVLCCLTCTSTLAAGVNLPARRVILRAPYVATKFL | 666 |
| Mus_musculus | PFGIAYHHSGLTSEERKLLEEAYSTGVLCCLTCTSTLAAGVNLPARRVILRAPYVANTFL | 655 |
| Rattus_norvegicus | PFGVAYHHSGLTSDERKLLEEAYSTGVLCCLTCTSTLAAGVNLPARRVILRAPYVANTFL | 651 |
| Homo_sapiens | PFGVAYHHSGLTSDERKLLEEAYSTGVLCCLTCTSTLAAGVNLPARRVILRAPYVAKEFL | 696 |
| Pan_troglodytes | PFGVAYHHSGLTSDERKLLEEAYSTGVLCCLTCTSTLAAGVNLPARRVILRAPYVAKEFL | 696 |
| Macaca_mulatta | PFGVAYHHSGLTSDERKLLEEAYSTGVLCCLTCTSTLAAGVNLPARRVILRAPYVAKEFL | 696 |
| Callithrix_jacchus | PFGVAYHHSGLTSDERKLLEEAYSTGVLCCLTCTSTLAAGVNLPARRVILRAPYVAMEFL | 696 |
| Canis_lupus_familiaris | PFGVAYHHSGLTSDERKLLEEAYSTGVLCCLTCTSTLAAGVNLPARRVILRAPYVAKEFL | 668 |
| Equus_caballus | PFGVAYHHSGLTSEERKLLEEAYSTGVLCCLTCTSTLAAGVNLPARRVILRAPYVAKEFL | 661 |
| Bos_taurus | PFGVAYHHSGLTSDERKLLEEAYSTGVLCCLTCTSTLAAGVNLPARRVILRAPYVAKEFL | 424 |
| Xenopus_tropicalis | PFGIAYHHSGLTSDERKLIEEEAYSAGVLCCLLACTSTLAAGVNLPARRVILRAPYVANDFL | 608 |
| Rhinatrema_bivittatum | PFGIAFHHSGLTNDERKLTIEEAYSAGVLCCLTCTSTLAAGVNLPARRVVIRAPYVARDFL | 669 |
| |670.....680.....690.....700.....710.....720 | |

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*: *****:*****. *****: ***:*. * *:.* * *:.*: *.:*
Pavo_muticus      KKNQYKQMIGRAGRAGIDSAGESILIVQEKDKHLVQDLITSPLENCYSNLLPESTKGMQY 712
Pavo_cristatus    KKNQYKQMIGRAGRAGIDSAGESILIVQEKDKHLVQDLITSPLENCYSNLLPESTKGMQY 712
Gallus_gallus     KKNQYKQMIGRAGRAGIDNAGESILVVQEKDKHLVRDLITSPLENCYSNLLPEITKGMQY 716
Chelonia_mydas    KKNQYKQMIGRAGRAGIDNAGESILIVQEKDKHLVQDLVNSPLENCYSNLFLEFTKGIQS 726
Mus_musculus      KRNYKQMVGVRAGRAGIDTAGESILLLOEKDKQOVLELISGPLETCCSHLVVEFTKGIQA 715
Rattus_norvegicus KRNYKQMIGRAGRAGIDTAGESILLLOEKDKQOVLELISGPLETCCSHLVVEFTKGIQS 711
Homo_sapiens      KRNYKQMIGRAGRAGIDTIGESILILOEKDKQOVLELITKPLENCYSHLVQEFTKGIQT 756
Pan_troglodytes   KRNYKQMIGRAGRAGIDTIGESILILOEKDKQOVLELITKPLENCYSHLVQEFTKGIQT 756
Macaca_mulatta    KRNYKQMIGRAGRAGIDTIGESILILOEKDKQOVLELITRPLENCYSHLVQEFTKGIQT 756
Callithrix_jacchus KRNYKQMIGRAGRAGIDTIGESILILOEKDKQOVLELITRPLENCYSHLVQEFTKGIQT 756
Canis_lupus_familiaris KRNYKQMIGRAGRAGIDSIGESILILOEKDKQOVLELISRPLENCYSHLVQEFTKGIQT 728
Equus_caballus    KRNYKQMIGRAGRAGIDSTIGESILILOEKDKQOVLELISRPLENCYSHLVQEFTKGIQT 721
Bos_taurus        KRNYKQMIGRAGRAGIDSVGESILILOEKDKQOVLELISKPLENCYSHLVQEFTKGIQT 484
Xenopus_tropicalis KRAQYKQMVGVRAGRAGIDSAGESILIIQEKDKELVQELISKPMENCYSNLMHNSGKDFQS 668
Rhinatrema_bivittatum KRAQYKQMIGRAGRAGIDTAGESILIAQEKELVKDLISRPLENCYSNLMHDYCKGIQS 729
.....730.....740.....750.....760.....770.....780

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*:****:*****. :*: * :*:****. * :*: * : * * : *
Pavo_muticus      LLLSLVGLKIAVTQEEVYSFMCHTLLGVQQQLLLKEKSLSGIIRDELENLIEK----- 765
Pavo_cristatus    LLLSLVGLKIAVTQEEVYSFMCHTLLGVQQQLLLKEKSLSGIIRDELENLIEK----- 765
Gallus_gallus     LLLSLVGLKIAVTQEEVYSFMCHTLLGVQQQLLLKEKSLSEIVRDELENLIEK----- 769
Chelonia_mydas    LLLSLVGLKIAARNPEEIIYHFMCGTLFGVQQQFLSKEKSLSDITREALGCLIEK----- 779
Mus_musculus      LFLSLIGLKIAASLGDIYQFMSTFFGVQQKILLKEKSLWEITVDALHLTEK----- 768
Rattus_norvegicus LFLSLIGLKIAESLGDIYQFMNGTLFGVQQKILLREKSLWEITVGALEHLTEK----- 764
Homo_sapiens      LFLSLIGLKIATNLDDIYHFMNGTFFGVQQKVLLKEKSLWEITVESLRYLTEK----- 809
Pan_troglodytes   LFLSLIGLKIATNLDDIYHFMNGTFFGVQQKVLLKEKSLWEITVESLRYLTEK----- 809
Macaca_mulatta    LFLSLIGLKIATNLDDIYHFMNGTFFGVQQKILLKEKSLWEITVESLRYLTEK----- 809
Callithrix_jacchus LFLSLIGLKIATNLDDIYHFMNGTFFGVQQKILLKEKSLWEITVESLRYLTEK----- 809
Canis_lupus_familiaris LFLSLIGLKIATNLDDIYHFMCGTFFGVQQKILLQEKSLWDITIESLRYLTEK----- 781
Equus_caballus    LFLSLIGLKIATNLDDIYHFMSTFFGVQQKILLKEKTLWDITVDSLRYLTEKGLLOKDT 781
Bos_taurus        LFLSLIGLKIATNLDDIYRFMSGTFFGVQQKVLLKEKSLWEITMESLRYLTEK----- 537
Xenopus_tropicalis LLLSLIGLKITKTAAEEIYSFVSCTLFSVQQSVLCKAKNLLDVTKESLECLVDK----- 721
Rhinatrema_bivittatum LFLSLIGLKISQTPPEEIIYHFMCGTLFSVQQKHLCKEKSIWDITRESLEVLMK----- 782
.....790.....800.....810.....820.....830.....840

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*: . : : :*: * :* *: : * :*:*****:
Pavo_muticus      -----GLLKGI-MEQDQNSKSTLTITLLGKATYKGSIDLSYCNLLYKELRKGLEGLVLE 819
Pavo_cristatus    -----GLLKGI-MEQDQNSKSTLTITLLGKATYKGSIDLSYCNLLYKELRKGLEGLVLE 819
Gallus_gallus     -----GLLKGI-MEKDQNSKSTLTITLLGKATYKGSIDVSYCNLLYKELRKGLEGLVLE 823
Chelonia_mydas    -----GLLKGMTCEKEQKSQSNLEITOLGQATYKGSIDLAYCDALYRDLKKGLEGLVLE 834
Mus_musculus      -----GLLOKDCG-DNEGLECHFRITKLGAQSFKAIDLAYCDILYRDLKKGLEGLVLE 822
Rattus_norvegicus -----GLLOKDSHG-SPEESRCHFRITKLGAQSFKAIDLTCDILYRDLKKGLEGLVLE 818
Homo_sapiens      -----GLLOKDTIYKSEEEVQYNFHITKLGRASFKGTIDLAYCDILYRDLKKGLEGLVLE 864
Pan_troglodytes   -----GLLOKDTIYKSEEEVQYNFHITKLGRASFKGTIDLAYCDILYRDLKKGLEGLVLE 864
Macaca_mulatta    -----GLLOKDTIYKSEEEVQYNFHITKLGRASFKGTIDLAYCDILYRDLKKGLEGLVLE 864
Callithrix_jacchus -----GLLOKDTIYKSEEEVQYNFHITKLGRASFKGTIDLAYCDILYRDLKKGLEGLVLE 864
Canis_lupus_familiaris -----GLLOKDTIDKPKEEIQYSFHITKLGRASFKGTIDLAYCNILYRDLKKGLEGLVLE 836
Equus_caballus    ILTEKGLLOKDTICKSEEEFQYSFQITNLGRASFKGTIDLAYCDVLYRDLKKGLEGLVLE 841
Bos_taurus        -----GLLOKDTMCGSKKEEFQNNFHITKLGRASFKGTIDLAYCDILYRDLKKGLEGLVLE 592
Xenopus_tropicalis -----GLICGKTCSETEQ---YIFQVSKLGHATYKGCIDLACYDILYSDLNRLGLEGLVLE 773
Rhinatrema_bivittatum -----KLISGKLASEREQEQYQGLTRVSKLGAIFKGSIDLAYSDILYKDLKKGLEGLVLD 837
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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| | ..***:.*.***:..****:.*:.*.***.:.:.*:.*:.*:***:***:. | |
|------------------------|--|-----|
| Pavo_muticus | SSLHLLFLIATPYDMVPNCSPDWMYLRQFNQLSABQKVADMGVPE\$FIAKKASGOAIR | 879 |
| Pavo_cristatus | SSLHLLFLIATPYDMVPNCSPDWMYLRQFNQLSABQKVADMGVPE\$FIAKKASGOAIR | 879 |
| Gallus_gallus | SSLHLLYLATPYDMVSNCPDWMYLRQFNQLSABQKVADMGVPE\$FIAKKASGOAIR | 883 |
| Chelonia_mydas | SCLHLLIYLTTPYDMIDHCRPDWMIYFRQFSQLNSVEQKVAALVGVPE\$FITKKASGOAIK | 894 |
| Mus_musculus | SLHLHIYLTTPYDLAAQSEPDWMVYFKQFGQLSPTEQNVAAALLGVSE\$FIGKKAAGQAVR | 882 |
| Rattus_norvegicus | SLHLVLYLTTPYDLAAQSEPDWMVYFRQFSQLSPAEO\$VAITLLGISE\$FIGRKASGOAIR | 878 |
| Homo_sapiens | SLHLIYLTTPYDLV\$QCNPDWMIYFRQFSQLSPAEO\$NVAAAILGVSE\$FIGKKASGOAIG | 924 |
| Pan_troglodytes | SLHLIYLTTPYDLV\$QCNPDWMIYFRQFSQLSPAEO\$NVAAAILGVSE\$FIGKKASGOAIG | 924 |
| Macaca_mulatta | SLHLIYLTTPYDLV\$QSNPDWMIYFRQFSQLSPAEO\$NVAAAILGVSE\$FLGKKASGOAIR | 924 |
| Callithrix_jacchus | SLHLIYLTTPYDLV\$QCNPDWMIYFRQFSQLSPAEO\$NVAAAILGVSE\$FIGKKASGOAIR | 924 |
| Canis_lupus_familiaris | SLHLIYLTTPYDMASCCDPDWMYFRQFSQLSPAEO\$NVAAALLGVSE\$NFIGKKASGOPIK | 896 |
| Equus_caballus | SLHLIYLTTPYDMASQCDPDWMIYFRQFSQLSPAEO\$NVAALVGVSE\$NFIGKKASGOAIK | 901 |
| Bos_taurus | SLHLIYLTTPYDMASQCDPDWMIYFRQFNQLSPAEO\$NVAALVGVSE\$NFIGKKASGOAIR | 652 |
| Xenopus_tropicalis | SFLHLLYLVIPYDLVGKFNPDWMIYFROYNSLSPVEQKVAASVGIPE\$SLARKASGOTVK | 833 |
| Rhinatrema_bivittatum | NFLHLIYLVTPYDMVSHCNPDWMIYLRQLNMLSPTELKLTATVGVPE\$SLIAKKASGOTVK | 897 |
| |910.....920.....930.....940.....950.....960 | |

| | ..:..*.*.*.*.*:.*:.*:.*:.*:.***:*:*:*.*.*.*.*:.*:.*.*:.*.*.*.* | |
|------------------------|--|-----|
| Pavo_muticus | KNVDSAIVNRLYL ⁹⁷⁰ SFVLYALLKETNIWVS ⁹⁸⁰ VEKFNMSRGYVQNLLTSAASFASCVLHFC ⁹⁹⁰ EE | 939 |
| Pavo_cristatus | KNVDSAIVNRLYL ⁹⁷⁰ SFVLYALLKETNIWVS ⁹⁸⁰ VEKFNMSRGYVQNLLTSAASFASCVLHFC ⁹⁹⁰ EE | 939 |
| Gallus_gallus | KNVDSTAVNRLYL ⁹⁷⁰ SFVLYALLKETNVWS ⁹⁸⁰ VEKFNMSRGYVQNLLTSAASFASCILHFC ⁹⁹⁰ EE | 943 |
| Chelonia_mydas | KDVN ⁹⁷⁰ GVNRLYL ⁹⁸⁰ SFVLYALLKETNIWNVSEKFNMSRGYVQNLLNSAASFASCVLHFS ⁹⁹⁰ EE | 954 |
| Mus_musculus | KKVDKNV ⁹⁷⁰ NRLYL ⁹⁸⁰ SFVLYSLLKETNVWS ⁹⁹⁰ VEKFNLP ¹⁰⁰⁰ RGYIQNLLMGAASFSSCVLHFC ¹⁰¹⁰ EE | 942 |
| Rattus_norvegicus | KKVDKNAV ⁹⁷⁰ NRLYL ⁹⁸⁰ SFVLYSLLKETNVWS ⁹⁹⁰ VSERFNM ¹⁰⁰⁰ PRGYIQNLLMGAASFSSCVLHFC ¹⁰¹⁰ EE | 938 |
| Homo_sapiens | KKVDKNV ⁹⁷⁰ NRLYL ⁹⁸⁰ SFVLYTLLKETNIWTVSEKFNMP ⁹⁹⁰ RGYIQNLLTGTASFSSCVLHFC ¹⁰⁰⁰ EE | 984 |
| Pan_troglodytes | KKVDKDV ⁹⁷⁰ NRLYL ⁹⁸⁰ SFILYTLLKETNIWTVSEKFNMP ⁹⁹⁰ RGYIQNLLTGTASFSSCVLHFC ¹⁰⁰⁰ EE | 984 |
| Macaca_mulatta | KKVDKDV ⁹⁷⁰ NRLYL ⁹⁸⁰ SFVLYTLLKETNIWTVSEKFNMP ⁹⁹⁰ RGYIQNLLTGAASFSSCVLHFC ¹⁰⁰⁰ EE | 984 |
| Callithrix_jacchus | KKVDKDV ⁹⁷⁰ NRLYL ⁹⁸⁰ SFVLYSLLKETNIWTVSEKFNMP ⁹⁹⁰ RGYIQNLLTGAASFSSCVLHFC ¹⁰⁰⁰ EE | 984 |
| Canis_lupus_familiaris | KKVDKDIV ⁹⁷⁰ NRLYL ⁹⁸⁰ SFVLYTLLKETNIWVSVEKFNMP ⁹⁹⁰ RGYIQSLLTGAASFSSCVLHFC ¹⁰⁰⁰ EE | 956 |
| Equus_caballus | KKVDKGIV ⁹⁷⁰ NRLYL ⁹⁸⁰ SFVLFTLLKETNIWVSVEKFNMP ⁹⁹⁰ RGYVQNLLTAAASFSSCVLHFC ¹⁰⁰⁰ EE | 961 |
| Bos_taurus | KKVDKNIV ⁹⁷⁰ NRLYL ⁹⁸⁰ SFILYTLLKETNIWVSVEKFNMP ⁹⁹⁰ RGYIQSLLSAAAFSSCVLHFC ¹⁰⁰⁰ EE | 712 |
| Xenopus_tropicalis | TSANM ⁹⁷⁰ VNRLYL ⁹⁸⁰ SFILYTLLKETDIW ⁹⁹⁰ RVSAKFSIP ¹⁰⁰⁰ RGTLQNLLSSASFS ¹⁰¹⁰ SSVLHFC ¹⁰²⁰ EE | 893 |
| Rhinatrema_bivittatum | KGVD ⁹⁷⁰ SGIVSR ⁹⁸⁰ LYLAFVLYALLQD ⁹⁹⁰ TNIWNVSEKFI ¹⁰⁰⁰ LSRGYVQNLLTSAASFSSCVLHFC ¹⁰¹⁰ EE | 957 |

| | *:***.*: ** *:***:*****:*****:*.::*.**:*:*:* ** :: *****.* | |
|------------------------|---|------|
| Pavo_muticus | LEEFWVYKALLTELTKRLTYCVKTELIPLM EVAGVLEARAKOLYNAGYKTLAHLANANPE | 999 |
| Pavo_cristatus | LEEFWVYKALLTELTKRLTYCVKTELIPLM EVAGVLEARAKOLYNAGYKTLAHLANANPE | 999 |
| Gallus_gallus | LEEFWVYKALLTELTKRLTYCVKTELIPLM EVAGVLEARAKOLYNAGYKTLAHLANANPE | 1003 |
| Chelonia_mydas | LEEFWVYKALLTELTKRLTYCVKAEIPLMEVAGVLESRAKOLYDSGYKTLAHLANADPE | 1014 |
| Mus_musculus | LEEFWVYKALLVELTKKLTTCVKAEIPLMEVTVGLEGRAKOLYNAGYRSIMHLANANPE | 1002 |
| Rattus_norvegicus | LEEFWVYKALLTELTKKLTTCVKAEIPLMEVTVGLEGRAKOLYSAGYRSVVHLANANPE | 998 |
| Homo_sapiens | LEEFWVYRALLVELTKKLTTCVKAEIPLMEVTVGLEGRAKOLYSAGYKSLMHLANANPE | 1044 |
| Pan_troglodytes | LEEFWVYRALLVELTKKLTTCVKAEIPLMEVTVGLEGRAKOLYSAGYKSLMHLANANPE | 1044 |
| Macaca_mulatta | LEEFWVYRALLVELTKKLTTCVKAEIPLMEVTVGLEGRAKOLYSAGYKSLMHLANANPE | 1044 |
| Callithrix_jacchus | LEEFWVYRALLVELTKKLTTCVKAEIPLMEVTVGLEGRAKOLYSAGYKSLTHLANANPE | 1044 |
| Canis_lupus_familiaris | LEEFWVYRALLVELTKKLTTCVKAEIPLMEVTVGLEGRAKOLYNAGYKSLTHLANANPE | 1016 |
| Equus_caballus | LEEFWVYRVLLVELTKKLTTCVKAEIPLMEVTVGLEARAKOLYSAGYKSLMHLANANPE | 1021 |
| Bos_taurus | LEEFWVYRALLGELTKKLTTCVKAEIPLMEVTVGLEGRAKOLYNAGYKSLTHLANANPE | 772 |
| Xenopus_tropicalis | LDEFWAYKSLQLTKKLTTCVKSELIPLM EVAGVMEARAKOLYNAGYTSLAHLANADPE | 953 |
| Rhinatrema_bivittatum | LDEFWAYKPLLEIVTKRLTYCVKPELIPLM EVAGILEARAKOLYNAGYTTLAHLANASPE | 1017 |
| |1030.....1040.....1050.....1060.....1070.....1080 | |

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      .::: *::*:~::~~::: ~::~*~: ~*~: ~: ~: ~: ~: ~:
Pavo_muticus      TLVKTIEHLSRRQAKQMVSSAKMLLTEKAEALQEEVEELLKVPT-----DIP- 1046
Pavo_cristatus    TLVKTIEHLSRRQAKQMVSSAKMLLTEKAEALQEEVEELLKVPT-----DIP- 1046
Gallus_gallus     TLVKTIEHLSRRQAKQMVSSAKMLLSEKAEALQEEVEELLKVPT-----DIP- 1050
Chelonia_mydas    TLVKMIEHLSRRQARQIVSSAKMLLREKAEALQEEVEELLKVPT-----DTSE 1062
Mus_musculus      VLVKTIDHLSRRQARQIVSSAKMLLHEKAEALQGEAEELLRLPA-----DLPG 1050
Rattus_norvegicus VLVKTIDHLSRRQAKQIVSSAKMLLHEKAEALQEEAEELLRLPA-----DLPG 1046
Homo_sapiens      VLVRTIDHLSRRQAKQIVSSAKMLLHEKAEALQEEVEELLRLPS-----DFPG 1092
Pan_troglodytes   VLVRTIDHLSRRQAKQIVSSAKMLLHEKAEALQEEVEELLRLPS-----DFPG 1092
Macaca_mulatta    VLIKTIDHLSRRQAKQIIASAKILFKLRASWPI SKMLNFKIFLTSKPLLLCIIPLNYPK 1104
Callithrix_jacchus VLIRTIDHLSRRQAKQIVSSAKMLLHEKAEALQEEVEELLRLPS-----DFPG 1092
Canis_lupus_familiaris VLIRTIDHLSRHQAKQMVSSAKMLLHEKAEALQEEVEELLRLPS-----DFPS 1064
Equus_caballus    VLIRTIDHLSRRQAKQIVSSAKMLLHEKAEALREEVEELLRLPS-----DFPG 1069
Bos_taurus        VLIRTIDHLSRRQAKQIVSSAKMLLHEKAEALQEEVEELLRLPS-----DFPG  820
Xenopus_tropicalis VMVKKIEHLSRHQAKQIVFSAKMLVNEKAEALQEEVDELSRLPP-----DLP- 1000
Rhinatrema_bivittatum VLIKTIEHMSRRQAKQIVASAKMLLSEKAEALQGEVEDLLRLPT-----DLPG 1065
.....1090.....1100.....1110.....1120.....1130.....1140

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Pavo_muticus      ----- 1046
Pavo_cristatus    ----- 1046
Gallus_gallus     ----- 1050
Chelonia_mydas    GLLTTLP----- 1069
Mus_musculus      LGGPSSERAGSHAGDVTLS 1069
Rattus_norvegicus LGGPGSERAGSHAGDLALR 1065
Homo_sapiens      AVASSTDKA----- 1101
Pan_troglodytes   AVASSTDKA----- 1101
Macaca_mulatta    EAFLEHTHVLVKCEHFQT 1123
Callithrix_jacchus AVASSTDEA----- 1101
Canis_lupus_familiaris IAASSEKA----- 1072
Equus_caballus    IVASSTERHEAT----- 1081
Bos_taurus        LVASSTEKA-----  829
Xenopus_tropicalis ----- 1000
Rhinatrema_bivittatum LNVSPVENQ----- 1074
.....1150.....

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