

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ARID1B.p Tue Feb 1 11:23:28 2022

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Gallus_gallus          -----MAHR--AAPNGG-----SAAGGPSSEPAL----- 22
Pavo_cristatus        -----
Pavo_muticus          -----
Chelonia_mydas        -----MIMAAQVAAAPAGAKNNKGKTPSLPGNLSQDISSGGAAAAAAGGPGPGSMLGVG 55
Mus_musculus          -----
Rattus_norvegicus     -----MAARSAARARAGSCERRAPSGPRPAPGARDLETGARGAVAAAAAPG---PI 49
Homo_sapiens          MAARAAAAAARARARAGSGERRAPPGPRPAPGARDLEAGARGAAAAAAGPMLGG 60
Callithrix_jacchus    MAARAAAAAARARARAGSGERRAPPGPRPAPGARDLEAGARG-AAAAAAGPMPGG 59
Macaca_mulatta        -----
Canis_lupus_familiaris --MAARAAAAAARARARTGSGERRAPPGPRPAPGARDLEAGARGAAAAAAGPMLG 58
Equus_caballus        -----
Bos_taurus           -----
Latimeria_chalumnae   MAAQVAAAPPANPNSKTPGLSANLNPDLNSAKAAGPGSGAGAGSMLGVAGDGTGTGT 60
Rhinatrema_bivittatum -----
Xenopus_tropicalis    -----MIMAAQVVSAAAPPAINTNNKGKSGQLPGLNQDLNSGSGSVPLGLDGAANSS 55
1.....10.....20.....30.....40.....50.....60

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Gallus_gallus          -----KEAGGGSAAARSSS----- 35
Pavo_cristatus        -----
Pavo_muticus          -----
Chelonia_mydas        DGTNSSSLNNVDHLLHHHNLNMANNTSAAATGNN---NNNANSSSCSSSSSALK 111
Mus_musculus          -----
Rattus_norvegicus     LGGGDGGLNNVHHHPLHPRHDLNMAHSASAAAAASS---NSAQSGG---SEAALK 98
Homo_sapiens          GGDGGGGLNSVHHHPLLPRLHDLNMAHNAGAAAAAG---THSAKSGG---SEAALK 109
Callithrix_jacchus    GGDGGGGLNSVHHHPLLPRLHDLNMAHNAGAAAAAG---THSAKSGG---SEAALK 109
Macaca_mulatta        -----MAHNAGAAAAAG---THSAKSGG---SEAALK 27
Canis_lupus_familiaris GGGDGGGLHNSVHHHPLHPRHDLNMAHNASTAAAAAS---SHSAKSGG---SEAALK 108
Equus_caballus        -----MAHNASAPAAAAAS---ANSKSSS---SEAALK 27
Bos_taurus           -----MAHNASAAAAVAAS---TNSAKSGG---SEA--- 25
Latimeria_chalumnae   TTTTNNGMNNVDHHHHHHHHHQQQQHHQHLHLQSEMNMNATSSANNNNNNNSGSSS 120
Rhinatrema_bivittatum -----MIMAAQVATAAPN---NQGVPS---PSPDLG 26
Xenopus_tropicalis    TNNNNNNGDHLHHHSLHHHHHLHHHHHHHFEVNLATGTSLSANANNNTNNNNSSSDAGHK 115
.....70.....80.....90.....100.....110.....120

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Gallus_gallus          -----SSPPSSS-----SSSSSSSTPGSAMETGLLPNHKLKSVGGDHPAAPP 79
Pavo_cristatus        -----
Pavo_muticus          -----
Chelonia_mydas        EGGSSSGLPSSS-----SSSSSSSNPGSAMETGLLPNHKLKNVGGDHPAAPP 160
Mus_musculus          -----METGLLPNHKLKAVG-EAPAAPP 22
Rattus_norvegicus     EGGSAALSSSA-----AVAASSSSAGPGSAMETGLLPNHKLKAVG-EAPAAPP 146
Homo_sapiens          EGGSAALSSSSSSS-----AAAAAASSSSSGPGSAMETGLLPNHKLKTVG-EAPAAPP 163
Callithrix_jacchus    EGGSAALSSSSS-----AAAAAASSSSSGPGSAMETGLLPNHKLKTVG-EAPAAPP 160
Macaca_mulatta        EGGSAALSSSSS-----AAAAAASSSSSGPGSAMETGLLPNHKLKTVG-EAPAAPP 80
Canis_lupus_familiaris EGGSAALSSSSSAAAAAASSSSSGPGSAMETGLLPNHKLKTVG-EAPAAAP 167
Equus_caballus        EAGSAALSSSS-----SSAAASSSSAGPGSAMETGLLPNHKLKTVG-EAPAA-- 75
Bos_taurus           EGGSATALLSSSSSSS-----AAAAAASSSSSGPGSAMETGLLPNHKLKTVG-EAPAAAP 82
Latimeria_chalumnae   GGNNGSSGGSSSSSGOKESGNSAVSSNINPGASSTMETGLIPNHKLKNVG---GDPP 176
Rhinatrema_bivittatum SGKAGGAGPGSA-----AADCTGGGGGSNNVDYQQQQQQQLPQQHQHPPPPPP 74
Xenopus_tropicalis    EGRNSAVSPHYHVDMG-----GGVPNHKLKSGSSASGGDYLAITHTPLHPPHHHAHH 169
.....130.....140.....150.....160.....170.....180

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Gallus_gallus      HHHRAHHPH-----HHAHHHHHAHRPH--RHHAPPQPLNPFPPPPPPQPPPHHHA 128
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    HHHHAHHPH-----HHAHHHHHAHHQH--HHHALQQQLNQFQ--QQQPPPHHHPM 206
Mus_musculus      HQQHSHHHHA-----HHHHHHHHAHHLHHLH--HHHALQQQLNQFQQPQPQPQQQPPPP 73
Rattus_norvegicus HQQHSHHHHA-----HHHHHHHHAHHLH--H--HHHALQQQLNQFQQP--PQPQQQPPPP 193
Homo_sapiens      HQQHSHHHHH-----AHHHHHHHAHHLHH--HHALQQQLNQFQQQQQQQQQQQQQQQ 211
Callithrix_jacchus HQQHSHHHHH-----AHHHHHHHAHHLHH--HHALQQQLNQFQQQQQQQQQQQQQ--- 205
Macaca_mulatta    HQQHSHHHHH-----AHHHHHHHAHHLHH--HHALQQQLNQFQQQQQQQQQQQQQQQ 128
Canis_lupus_familiaris HQQHSHHHHH-----AHHHHHHHAHHLHH--HHHALQQQLNQFQQQQQQQQQQQQQQQ 216
Equus_caballus    --QHSHHHHH-----AHHHHHHHAHHLHH--HHHALQQQLNQFQQQQQQQQQQQQQQQ 122
Bos_taurus        HQQHSHHHHHHHHHHAHHLQHSHHHHHHAHHLHH--LHHHALQQQLNQFQQQQQQQQPQQQQQQH 140
Latimeria_chalumnae PPQHPPHHHH-----HQLNQFQQQH--HHLNPNNNINSSSQPAEMETQQPHAGK 222
Rhinatrema_bivittatum AAPLPHPHY-----QHQQLLSMAKATCAAAAAAHHPSNNNHGGGGGGGAAAAGG 123
Xenopus_tropicalis PQQHPSHHAP-----QHLQQHPPYHPN--HPHPPQQLNQLOPQQLSGTTIQPSPN 217
.....190.....200.....210.....220.....230.....240

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Gallus_gallus      QNSSGSLGGGGGNNNGGGGGGAAQPGADMEQQHGGKDC--VLGAPAEPPQPPQOMLN 186
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    QNNN-SLGGGGGNNNGGG--GAAQPSADMEQQHGGKDS--VLGNQAEPPPPPPQOQMLN 261
Mus_musculus      PP-QQQ-HPTANN-SLGGAGGGAPQPGPDMEQPHGGAKD-SVAGNQADPPQGP---LLS 126
Rattus_norvegicus PP-QQQHPTANN-SLGGAGGGAPQPGPDMEQPHGGAKD-SAAGSQADPPQGP---LLS 247
Homo_sapiens      Q---QQHPISNNNSLGGAGGGAPQPGPDMEQPHGGAKD-SAAGQADPPGPP---LLS 263
Callithrix_jacchus -----QQHPISNNNSLGGAGGGAPQPGPDMEQPHGGAKD-SAAGQADPPGPP---LLS 256
Macaca_mulatta    QQ---QQHPISNNNSLGGAGGSAPOPGPDMEQPHGGAKD-SAAGQADPPGPP---LLS 181
Canis_lupus_familiaris QQQQQQQHPIISNNNSLGGAGGGAAQPGPDMEQPHGGAKD-SAAGSQADPPGQP---LLS 272
Equus_caballus    QQQQ---HPISNNNSLGGAGGGAAQPGPDMEQPHGGAKD-SAAGSQADPPGQP---LLS 175
Bos_taurus        -----HPISNNNSLGGAGGGTPQPGADMEQPHGGAKDGAAGSQAEPPGPQ---LLS 190
Latimeria_chalumnae EN-----NNNNILGN-----QADQQQHHPQQQ-----MLS 249
Rhinatrema_bivittatum RD-----PALIPNHKVKASAGPPDMEAPQQGGGGGGGGKS-GALGSEAEPSPPPP--GDE 175
Xenopus_tropicalis KSSPGGGSSEASDMENQQQQQQQHGGVGEESNSAAAAAGKDVALNQGDSQPRRATKA 277
.....250.....260.....270.....280.....290.....300

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Gallus_gallus      KGADEEEMPGKMGEPIGGRYEHPLGLPLGG-----QQQPQPPPSAGSGGGLGGGG 237
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    KGEEEEELPSKMGEQIGGRYDHPSLGLPLGG-----QQ--QQQPQSAGSGSG--NSSL 309
Mus_musculus      KPGDEDDAPPKMGEPAGSRYEHPGLGAQ-----QQ--PAPVAVPGGGGG--- 168
Rattus_norvegicus KPGDEDDAPPKMGEPAGSRYEHPGLGAQ-----QQ--PAPVAVPGGGGG--- 290
Homo_sapiens      KPGDEDDAPPKMGEPAGGRYEHPLGLGALT-----QQ--PPVAVPGGGGG--- 306
Callithrix_jacchus KPGDEDDAPPKMGEPAGGRYEHPLGALGA-----QQ--PPVAVPGGGGG--- 299
Macaca_mulatta    KPGDEDDAPPKMGEPAGGRYEHPLGALGA-----QQ--PPVAVPGGGGG--- 224
Canis_lupus_familiaris KPGDEDDAPPKMGEPAGGRFEHPGLGALGA-----QQ--PPVAVPGGGGGGGG 318
Equus_caballus    KPGDEDDAPPKMGEPAGGRYEHPLGALGA-----QQ--PPVAVPGGGGGGGG 221
Bos_taurus        KPGDEDDAPPKMGEPAGGRFEHPGLGALGA-----QQQQQPPPPVAVPGGGGGGGG 241
Latimeria_chalumnae KSEEEELAGSKMGDQLGGRYDHPNLGPAAS-----QQ-----PQGGGGGNPGS-- 292
Rhinatrema_bivittatum QQEEEEAAAAAAEPPGSRYEHPGLGHLGGGGGGGGAGQQQQPAAAPAPVSGGPGLAG- 234
Xenopus_tropicalis DEDDLQQGKMRVGEPVSGRYEHTVLGGGQGN-----SSNNTTNNNIGSGGSSSSSS 329
.....310.....320.....330.....340.....350.....360

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Gallus_gallus      GGGGGGGG-----GGPSAVGVSEFNSYYGNAAPAAASATASRAGPCFDQHGGQOSP 289
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    GGGSGGGG-----GGPSAVGVSEFNSYYGN--PAPASATASRAGPCFDQHGGQOSP 359
Mus_musculus      -----PAAVSEFNYYGS--AAPASGGPGGRAGPCFDQHGGQOSP 206
Rattus_norvegicus -----PAAVSEFNYYGS--AASASGGPGGRAGPCFDQHGGQOSP 328
Homo_sapiens      -----PAAVSEFNYYGS--AAPASGGPGGRAGPCFDQHGGQOSP 344
Callithrix_jacchus -----PAAVSEFNYYGS--AAPASGGPGGRAGPCFDQHGGQOSP 337
Macaca_mulatta    -----PAAVSEFNYYGS--AAPASGGPGGRAGPCFDQHGGQOSP 262
Canis_lupus_familiaris GGGGSGGGGGGGSGGGGGGPAAVSEFNYYGS--AAPASGGPGGRAGPCFDQHGGQOSP 376
Equus_caballus    G-----PAAVSEFNYYGS--AAPASGGPGGRAGPCFDQHGGQOSP 260
Bos_taurus        G-----PAAVSEFNYYGS--AAPASGGPGGRAGPCFDQHGGQOSP 280
Latimeria_chalumnae -----SGSLPEFN--YYGS--ASRGGPCFDQHGGQOSP 321
Rhinatrema_bivittatum -----AAGGPEFNTYYGG-----ASTRAGPCFDQHGGQOSP 264
Xenopus_tropicalis SS-----SSSSVSDFNNYYGS-----ASTSRAGPCFDQHGGQOSP 365
.....370.....380.....390.....400.....410.....420

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Gallus_gallus      GMGIMHPAA-----APNSMDPLQNSHEGY-PNSQYNHYPPYGRPGGGGGG----- 334
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    GMGLMHPTA-----APNSMDPLQNSHEGY-PNSQYNHYPGYGR--AGGAA----- 401
Mus_musculus      GMGMMHSASAAAAG-APSSMDPLQNSHEGY-PNSQYNHYPGYSRPGAGGGGGGGGGGGGGSG 264
Rattus_norvegicus GMGMMHSASAAAAG-APSSMDPLQNSHEGY-PNSQYNHYPGYSRPGAGGGGGGGGGGGGGSG 386
Homo_sapiens      GMGMMHSASAAAAGAPGSMPLQNSHEGY-PNSQCNHYPGYSRPGAGGGGGGGGGGGGGGGG- 401
Callithrix_jacchus GMGMMHSASAAAAG-APGSMPLQNSHEGY-PNSQCNHYPGYSRPGAGGGGGGGGGGGGGGGG- 394
Macaca_mulatta    GMGMMHSASAAAAGAPGSMPLQNSHEGY-PNSQCNHYPGYSRPGAGGGGGGGGGGGGGGGG- 321
Canis_lupus_familiaris GMGMMHSAPAAAAG-APNSMDPLQNSHEGY-PNSQYNHYPGYSRPSAGGGGGGGGGGGGGGGG 434
Equus_caballus    GMGMMHSASAAAAG-APNSMDPLQNSHEGY-PNSQYNHYPGYSRPSAGGGGGGGGGGGGGGGG 318
Bos_taurus        GMGLMHSASAAAAG-APNSMDPLQNSHEGY-PNSQYNHYPGYSRPSAGGGGGGGGGGGGGGGG 338
Latimeria_chalumnae GMGIMHPSA-----PNSMDPAQNSHEGG-QYNQYN-YPAYRPS----- 357
Rhinatrema_bivittatum GMGTMHPGGG-----GLEHNSQEAF-PG-HYNHYPGYGRP----- 297
Xenopus_tropicalis GMGMMHSGTAAPN---SMEPIQNSHEGFGSGSHYEHYQGSYSRAAAAGGG----- 413
.....430.....440.....450.....460.....470.....480

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Gallus_gallus      -----AGGGGAGAVAAAAAGAVAGGG-----GGGYGGSAGYGVLSGSPR 372
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    -----AGGAGAAAAAVAAAAAGAG-----GGGYGGSAGYGVLSGSPR 439
Mus_musculus      GGGGGGGAGGAGGAAAAAGAGAVAAAAAGAGGGGGGGGYGSSSSGYGVLSGSPR 324
Rattus_norvegicus GGGGGGGAGGAGGAAAAAGAGAVAAAAAGAGGGGGGGGYGSSSSGYGVLSGSPR 446
Homo_sapiens      GSGGGGGGGGAG---AGGAGAGAVAAAAAGAGGGGGGGGYGSSSAGYGVLSGSPR 455
Callithrix_jacchus GGGGGGGGAGAG---AGGAGAGAVAAAAAGAGGGGGGG-YGGSSAGYGVLSGSPR 447
Macaca_mulatta    GGGGGGGGAGAG---AGGAGAGAVAAAAAGAGGGGGGG-YGGSSAGYGVLSGSPR 374
Canis_lupus_familiaris GGSGGGGGGGGG---GGGAGAGAVAAAAAGAGGGGGGGGYGSSSSGYGVLSGSPR 491
Equus_caballus    GG--GGGGGGGA---AAAAGAGAVAAAAAGAGGGGGGG-YGGSSSGYGVLSGSPR 372
Bos_taurus        GG--GSGGGGGGG---GGAGAGAVAAAAAGAGGGGGGG-YGGSSSGYGVLSGSPR 392
Latimeria_chalumnae -----YGGSS--GYGMMSSPR 370
Rhinatrema_bivittatum -----GYPASSSS 306
Xenopus_tropicalis -----IGAYGSAAGYGVLSGSPR 431
.....490.....500.....510.....520.....530.....540

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Gallus_gallus      QPGGGMMMGPGGG--AGLGKAAAG-----AAAAAGGFARFSGONQHPSGATPTLNQLLT 424
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    QQGSSMMMGPGGG--ASLGKAA-----ATSGAGGFORFSGONQHPSGATPTLNQLLT 489
Mus_musculus      QQGGGMMMGPGGGGAASLSKAAAG-----AAAAAGGFORFAGQONQHPSGATPTLNQLLT 378
Rattus_norvegicus QQGGGMMMGPGGGGAASLSKAAAG-----AAAAAGGFORFAGQONQHPSGATPTLNQLLT 500
Homo_sapiens      QQGGGMMMGPGGGGAASLSKAAAG-----SAAGGFORFAGQONQHPSGATPTLNQLLT 507
Callithrix_jacchus QQGGGMMMGPGGGGAASLSKAAAG-----SAAGGFORFAGQONQHPSGATPTLNQLLT 499
Macaca_mulatta    QQGGGMMMGPGGGGAASLSKAAAG-----SAAGGFORFAGQONQHPSGATPTLNQLLT 426
Canis_lupus_familiaris QQGGGMMMGPGGGGAASLSKAAAG-----AAAGGFORFAGQONQHPSGATPTLNQLLT 543
Equus_caballus    QQGGGMMMGPGGGGAASLSKAAAGAA-----AAAGGFORFAGQONQHPSGATPTLNQLLT 426
Bos_taurus        QQGGGMMMGPGGGGAASLSKAAAGAAAAAAATGGFORFAGQONQHPSGATPTLNQLLT 452
Latimeria_chalumnae Q-GSSMMMGPSSASHGKPALAGG-----GGAAAVGFORFSGSQHPSGATPTLNQLLT 424
Rhinatrema_bivittatum ALAYGAPAGPSRQAGLMGPGKAG-----GGAGFGRYPGSPHPSGATPTLNQLLT 357
Xenopus_tropicalis QSSSGTSSSSILMGGGGTSHGKAP-----SASNAGGFORYQGQTPHPSGATPTLNQLLT 485
.....550.....560.....570.....580.....590.....600

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Gallus_gallus      SPSPMMRSYGGGYPDYGGPGAPPQPP--QPQ-----AAPAAPGSQQAAG-- 467
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    SPSPMMRSYGSYSPDYSNPTAPPQQPP--QPQ-----AAAAAPGSQQAAG 533
Mus_musculus      SPSPMMRSYGGSYPDYSSSAPPPPSQ--PQSQ-----AAAGAAAGGQQAAG 424
Rattus_norvegicus SPSPMMRSYGGSYPDYSSSAPPPPSQ--PQSQ-----AAAGAAAGGQQAAG 548
Homo_sapiens      SPSPMMRSYGGSYPEYSSSAPPPPPS--QPQSQ-----AAAGAAAGGQQAAG 555
Callithrix_jacchus SPSPMMRSYGGSYPEYSSSAPPPPPS--QPQSQ-----AAAG-AAAGGQQAAG 546
Macaca_mulatta    SPSPMMRSYGGSYPEYSSSAPPPPPS--QPQSQ-----AAAGAAAGGQQAAG 474
Canis_lupus_familiaris SPSPMMRSYGGSYPDYSSSAPPPPPS--SQPQSQAAAAAAAAAAAAAAAAAGAAAGGQQAAG 602
Equus_caballus    SPSPMMRSYGGSYPDYSSSAPPPPPS--SQPQSQ-----AAAAAGAAAGGQQAAG 477
Bos_taurus        SPSPMMRSYGGSYPDYSSSAPPPPPPSQPQSQ-----AAAAAGAAAGGQQAAG 504
Latimeria_chalumnae SPSPMMRGYGSYSPDYSSSAPLAPPP--PQPQ-----PQQQTG 461
Rhinatrema_bivittatum SPSPVMRSYAGGYPDYQP-----SSQGSQ 375
Xenopus_tropicalis SPSPMMRSYGGSYPDYSSSGPQQQSG-----SSQGSQ 518
.....610.....620.....630.....640.....650.....660

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Gallus_gallus      --MGMGKD-MGAQYGAASPAWAAAQQRNHPAMSPGSTAQPIGRTOGS-PMDPMVMKRPQL 523
Pavo_cristatus    -----QGS-PMDPMVMKRPQL 15
Pavo_muticus      -----QGS-PMDPMVMKRPQL 15
Chelonia_mydas    MGMGMDKD-MGSQYGSANPAWAAAQQRNHPAMSPGSTGQTIISRTQGS-PMDPMVMKRPQL 591
Mus_musculus      --MGLGKD-LGAQYAAASPAWAAAQQRSHPAMSPGTPGPTMGRSQGS-PMDPMVMKRPQL 480
Rattus_norvegicus --MGLGKD-LGAQYAAASPAWAAAQQRNHPAMSPGTPGPTMGRSQGS-PMDPMVMKRPQL 604
Homo_sapiens      --MGLGKD-MGAQYAAASPAWAAAQQRSHPAMSPGTPGPTMGRSQGS-PMDPMVMKRPQL 611
Callithrix_jacchus --MGLGKD-MGAQYAAASPAWAAAQQRSHPAMSPGTPGPTMGRSQGS-PMDPMVMKRPQL 602
Macaca_mulatta    --MGLGKD-MGAQYAAASPAWAAAQQRSHPAMSPGTPGPTMGRSQGS-PMDPMVMKRPQL 530
Canis_lupus_familiaris --MGLGKD-MGAQYAAASPAWAAAQQRSHPAMSPGTPGPTMGRSQGS-PMDPMVMKRPQL 658
Equus_caballus    --MGLGKD-MGAQYAAASPAWAAAQQRSHPAMSPGTPGPTMGRSQGS-PMDPMVMKRPQL 533
Bos_taurus        --MGLGKD-MGAQYAAASPAWAAAQQRSHPAMSPGTPGPTMGRSQGS-PMDPMVMKRPQL 560
Latimeria_chalumnae --MGLGKD-MGSQYSAVNPGWG-AQQRNHPAMSPGNTGQPINRPAAS-PMESMMMKRPOP 516
Rhinatrema_bivittatum ---GMGKELLGSQYGTGPAGWG-PPQRGPPAMSPGGG---RAQST-PMDPMVLKRAQL 426
Xenopus_tropicalis QPMGMGKD-MGSQYGAANSAGW-AQQRNHPAMSPGSTGQNSNRPQGGPMDPMKRPQL 576
.....670.....680.....690.....700.....710.....720

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| | **:* *:** **.. | *:** :**.* *****:.* * | ..: *:*****:* | |
|------------------------|-----------------------|-----------------------|---------------------|-----|
| Gallus_gallus | YGMGNPNHPSQAQSSS----- | PYPGQSYGPPGPQRYPVGM | GRAPAAMGGMQYPOQQIP | 576 |
| Pavo_cristatus | YGMGNPNHPSQAQSSS----- | PYPGQSYGPPGPQRYPVGM | GRAPAAMGGMQYPOQQIP | 68 |
| Pavo_muticus | YGMGNPNHPSQAQSSS----- | PYPGQSYGPPGPQRYPVGM | GRAPAAMGGMQYPOQQIP | 68 |
| Chelonia_mydas | YGMGNPNHPSQTQSSS----- | PYPGQSYGPPGAQRYPMGM | GRTSGALGGIOYPOQQMP | 644 |
| Mus_musculus | YGMGTHPHSQPQSSS----- | PYPGGSYGPPGAQRYPLGM | QGRAPGALGGLQYPOQQMP | 533 |
| Rattus_norvegicus | YGMGTHPHSQPQSSS----- | PYPGGAYGPPGAQRYPLGM | QGRAPGALGGLQYPOQQMP | 657 |
| Homo_sapiens | YMGGSNPNHSPQSSS----- | PYPGGSYGPPGPQRYPIGI | QGRTPGAMAGMQYPOQQMP | 664 |
| Callithrix_jacchus | YMGGSNPNHSPQSSS----- | PYPGGSYGPPGPQRYPIGI | QGRTPGAMGGIOYPOQQMP | 655 |
| Macaca_mulatta | YMGGSNPNHSPQSSS----- | PYPGGSYGPPGPQRYPIGI | QGRTPGAMGGMQYPOQQMP | 583 |
| Canis_lupus_familiaris | YMGGSNPNHSPQSSS----- | PYPGGSYGPPGPQRYPIGI | QGRTPGAMGGMQYPOQQMP | 711 |
| Equus_caballus | YGLGSNPNHSPQSSS----- | PYPGGSYGPPGPQRYPLSI | QGRNPGAMGGMQYPOQQMP | 586 |
| Bos_taurus | YMGGSNPNHSPQSSS----- | PYPGGSYGPPGPQRYPIGI | QGRPPGAMGGMQYPOQQMP | 613 |
| Latimeria_chalumnae | YMGGSNPYSQQQQQQQG | PFPGQSYGPPTPQRYPVAM | QTRNHSTMGMQYPOQQMP | 576 |
| Rhinatrema_bivittatum | YMGGSNPYSQAQSSS----- | PYPGQAYGSPGSQRYPMGM | QSRQAAMAGMQYPOQQMP | 479 |
| Xenopus_tropicalis | YGIGGAPYSQTQSSS----- | PYPGQAYGAPGPQRYPMGI | QGRTOGAIVGMQYPOQQMP | 629 |
| |730.....740..... |750.....760..... |770.....780 | |

| | ..*.**.:*****.*****.** * | *** *: | :. ** .*: : ** ** | |
|------------------------|--|--------------------|-------------------|--|
| Gallus_gallus | PQYGGQGVSGYCQQGQPYYNQPPQ--HLPPQAQYLSQ---- | AQORYQAQDMSQEGYGT | 630 | |
| Pavo_cristatus | PQYGGQGVSGYCQQGQPYYNQPPQ--HLPPQAQYLSQ---- | AQORYQAQDMSQEGYGT | 122 | |
| Pavo_muticus | PQYGGQGVSGYCQQGQPYYNQPPQ--HLPPQAQYLSQ---- | AQORYQAQDMSQEGYGT | 122 | |
| Chelonia_mydas | PQYGGQGVSGYCQQGQPYYNQPPQPHLPPQAQYLSQ---- | AHORYQTQDDMSQEGYGN | 700 | |
| Mus_musculus | PQYGGQAVSGYCQQGQPYYNQPPPSHLPPQAQYLQFAAAQS | QORYQPQDDMSQEGYGT | 593 | |
| Rattus_norvegicus | PQYGGQGVSGYCQQGQPYYNQPPPSHLPPQAQYLQF--- | QSQRYQPQDDMSQEGYGT | 714 | |
| Homo_sapiens | PQYGGQGVSGYCQQGQPYYSQPPPHLPPQAQYLPs--- | QSQRYQPQDDMSQEGYGT | 721 | |
| Callithrix_jacchus | PQYGGQGVSGYCQQGQPYYSQPPPHLPPQAQYLPs--- | QSQRYQPQDDMSQEGYGT | 712 | |
| Macaca_mulatta | PQYGGQSVSGYCQQGQPYYSQPPPHLPPQAQYLPs--- | QSQRYQPQDDMSQEGYGT | 640 | |
| Canis_lupus_familiaris | PQYGGQGVSGYCQQGQPYYNQPPPHLPPQAQYLPs--- | QSQRYQPQDDMSQEGYGT | 768 | |
| Equus_caballus | PQYGGQGVSGYCQQGQPYYNQPPPHLPPQAQYLPs--- | QAQRYQPQDDMSQEGYGT | 643 | |
| Bos_taurus | AQYGGQGVSGYCQQGQPYYNQPPPHLPPQAQYLPs--- | QSQRYQPQDDMSQEGYGT | 670 | |
| Latimeria_chalumnae | PQYSQQGMGGYCQSSQPYYNQPPVSPQAQPYMQQ---- | PLRYQPQDDMSQETYGA | 631 | |
| Rhinatrema_bivittatum | PQYGGQGISGYCQQGQPYYNQLOPPHPAPQAQYLSQ---- | TQORYQPQDDASQEGYGA | 535 | |
| Xenopus_tropicalis | PQYGGQGVSGYCQQGQPYYNQSPQYPQAQYLSQ---- | AQRYPPQAEVAQEGYGN | 685 | |
| |790.....800.....810.....820.....830.....840 | | | |

| | * * * | . ** *: **: *: :***** | ***** | |
|------------------------|---------------|--------------------------------|------------------------|----------|
| Gallus_gallus | RSQPPMAP | -GKPNHEDLNLIQQERPSSLPVEVLASEDA | TFGHKDLSGSIDDLPTGT | EATL 689 |
| Pavo_cristatus | RSQPPMAP | -GKPNHEDLNLIQQERPSSLPVEVLASEDA | TFGHKDLSGSIDDLPTGT | EATL 181 |
| Pavo_muticus | RSQPPMAP | -GKPNHEDLNLIQQERPSSLPVEVLASEDA | TFGHKDLSGSIDDLPTGT | EATL 181 |
| Chelonia_mydas | RSQPPIAS | -GKPNHEDLNLIQQERPSSLPVEVLASEDA | AFLGLKDLSGSIDDLPTGT | EATL 759 |
| Mus_musculus | RSQPPLAP | -GKS NHEDLNLIQQERPSSLP----- | DLSGSIDDLPTGT | EATL 638 |
| Rattus_norvegicus | RAQPPLAP | -GKS NHEDLNLIQQERPSSLP----- | DLSGSIDDLPTGT | EATL 759 |
| Homo_sapiens | RSQPPLAP | -GKPNHEDLNLIQQERPSSLP----- | DLSGSIDDLPTGT | EATL 766 |
| Callithrix_jacchus | RSQPPLAP | -GKPNHEDLNLIQQERPSSLPVGVLA | SEDAAFGLKDLSGSIDDLPTGT | EATL 771 |
| Macaca_mulatta | RSQPPLAP | -GKPNHEDLNLIQQERPSSLPVEVLASE | DTAFGLKDLSGSIDDLPTGT | EATL 699 |
| Canis_lupus_familiaris | RSQPPLAP | -GKPNHEDLNLIQQERPSSLPVEVLTS | EDTAFGLKDLSGSIDDLPTGT | EATL 827 |
| Equus caballus | RPQPPLAP | -GKANHEDLNLIQQERPSSLPVEVLTS | EDTAFGLKDLSGSIDDLPTGT | EATL 702 |
| Bos_taurus | RSQPPLAS | -GKPNHEDLNLIQQERPSSLPVEVLTS | EDTAFGLKDLSGSIDDLPTGT | EATL 729 |
| Latimeria_chalumnae | RSQA PMTP | -GKPNHEDINLIQQERPSSLP----- | DLSGSIDDLPTGT | EATL 676 |
| Rhinatrema_bivittatum | RPQPPLSAA | GKS NHEDNLMOQDRPSSLP----- | DLSGSIDDLPTGT | EATL 581 |
| Xenopus_tropicalis | RLOPPSVAP | GKS NHEDNLMQOERPSSLP----- | DLSGSIDDLPTGT | EATL 731 |
| |850..... | 860.....870..... | 880.....890..... | 900 |

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*****.....:*****.....: ** *****.....
Gallus_gallus      SSAVSASGSTSSQGEQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 748
Pavo_cristatus    SSAVSASGSTSSQGEQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 240
Pavo_muticus      SSAVSASGSTSSQGEQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 240
Chelonia_mydas    SSAVSASGSTSSQGEQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 818
Mus_musculus      SSAVSASGSTSSQGDQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 697
Rattus_norvegicus SSAVSASGSTSSQGDQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 818
Homo_sapiens      SSAVSASGSTSSQGDQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 825
Callithrix_jacchus SSAVSASGSTSSQGDQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 830
Macaca_mulatta    SSAVSASGSTSSQGDQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 758
Canis_lupus_familiaris SSAVSASGSTSSQGDQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 886
Equus_caballus    SSAVSASGSTSSQGDQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 761
Bos_taurus        SSAVSASGSTSSQGDQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSGPIS 788
Latimeria_chalumnae SSAVSASGSTSSQGEQSNPAQSPFSPHASPHLSGIRGG-PSPSPVGSFVGSNQSRSGPIS 735
Rhinatrema_bivittatum SSAVSASGSTSSQGEQSNPAQSPFSPHASPHLSGIPGG-PSPSPVGSFVGSNQSRSDPIS 640
Xenopus_tropicalis SSAVSASGSTSSQGEQSNPAQSPFSPHASPHLSLQGGGSPSPVGSFVGSNQSRSGPIS 791
.....910.....920.....930.....940.....950.....960

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****.*.....:.*:*****:..... *** *:.....:.....
Gallus_gallus      PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQDRGFMAGIQRNPMQSQYGPQQTGPSMS 808
Pavo_cristatus    PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQDRGFMAGIQRNPMQSQYGPQQTGPSMS 300
Pavo_muticus      PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQDRGFMAGIQRNPMQSQYGPQQTGPSMS 300
Chelonia_mydas    PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQDRGFMAGIQRNPMQSQYGPQQTGPSMS 878
Mus_musculus      PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQERGFMGTQRNPMQSQYGPQQTGPSMS 757
Rattus_norvegicus PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQERGFMGTQRNPMQSQYGPQQTGPSMS 878
Homo_sapiens      PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQERGFMGTQRNPMQSQYGPQQTGPSMS 885
Callithrix_jacchus PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQERGFMGTQRNPMQSQYGPQQTGPSMS 890
Macaca_mulatta    PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQERGFMGTQRNPMQSQYGPQQTGPSMS 818
Canis_lupus_familiaris PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQERGFMGTQRNPMQSQYGPQQTGPSMS 946
Equus_caballus    PASIPGSQMPPQPPGSQSESSSHPALSQSPMPQERGFMGTQRNPMQSQYGPQQTGPSMS 821
Bos_taurus        PASIPGSQMPPQPPGNQSESSSHPALSQSPMPQERGFMGTQRNPMQSQYGPQQTGPSMS 848
Latimeria_chalumnae PASIPGSQMAPQTPGSQSEASTHPAMSQSPMPQDRGYMPGIQRNPMQSQYGPQQTGPSMS 795
Rhinatrema_bivittatum PASIPGSQMPPQTPGSQAESS-----SQSPMPQERGFISGVQRNPMQSQYGPQQTGPSMS 695
Xenopus_tropicalis PASISGNQMPPQPPGSQSESSSHPALSQSPMPQDRGFISAVQRNPMQSQYGPQHTGPSMS 851
.....970.....980.....990.....1000.....1010.....1020

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***.* * *:.*:.*:.*:*****.* * *:.....:.....
Gallus_gallus      PHPSPGG-QVHPGIGSFQQSNSSGTYGPQMSQYGPQGNYSRPPPTYSGVNPTSYSGPGPGM 867
Pavo_cristatus    PHPSPGG-QVHPGIGSFQQSNSSGTYGPQMSQYGPQGNYSRPPPTYSGVNPTSYSGPGPGM 359
Pavo_muticus      PHPSPGG-QVHPGIGSFQQSNSSGTYGPQMSQYGPQGNYSRPPPTYSGVNPTSYSGPGPGM 359
Chelonia_mydas    PHPSPGG-QMHPGIGSFQQSNSSGTYGPQMSQYGPQGNYSRPPPTYSGVNPTSYSGPGPGM 937
Mus_musculus      PHPSPGG-QMHPGISNFFQQSNSSGTYGPQMSQYGPQGNYSRTPPTYSGVPSASYSYSGPGPGM 816
Rattus_norvegicus PHPSPGG-QMHPGISNFFQQSNSSGTYGPQMSQYGPQGNYSRTPPTYSGVPSASYSYSGPGPGM 937
Homo_sapiens      PHPSPGG-QMHAGISSFQQSNSSGTYGPQMSQYGPQGNYSRPPAYSGVPSASYSYSGPGPGM 944
Callithrix_jacchus PHPSPGG-QMHAGISSFQQSNSSGTYGPQMSQYGPQGNYSRPPAYSGVPSASYSYSGPGPGM 949
Macaca_mulatta    PHPSPGG-QMHAGISSFQQSNSSGTYGPQMSQYGPQGNYSRPPAYSGVPSASYSYSGPGPGM 877
Canis_lupus_familiaris PHPSPGG-QMHPGISSFQQSNSSGTYGPQMSQYGPQGNYSRPPPTYSGVPSASYSYSGPGPGM 1005
Equus_caballus    PHPSPGG-QMHPGISSFQQSNSSGTYGPQMSQYGPQGNYSRPPPTYSGVPSASYSYSGPGPGM 880
Bos_taurus        PHPSPGG-QMHPGISSFQQSNSSGTYGPQMSQYGPQGNYSRPPPTYSGVPSASYSYSGPGPGM 907
Latimeria_chalumnae PHPSPGGGQMHPGLGGYQQSNSSGTYGPQIGQYGSQGNYSRHPNYGGMPTNYSYSGPGPGM 855
Rhinatrema_bivittatum PHPSPGG-QMHPGITSFQQSNSSSTYGPQMSPFQGNYSRPSYSYSGIPNASYSYSGPGPGM 754
Xenopus_tropicalis PHPPPPGGQMHPGMGSFQQSNSSGSYGSQMGQYGPQGNYSRSPSYTGVQNTSYSGPGPGI 911
.....1030.....1040.....1050.....1060.....1070.....1080

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|------------------------|--------|----------------------------|--------------------------|-----------------|-----------|-----------|------|----------|---|--|--|
| | . | :..*.*:** * | : | ...:**.* | * | *. | *..: |**. | * | | |
| Gallus_gallus | G---- | INANSOMHGOGPSQPCGTMPLGRMP | SAGMOSRPFPGNMSSMTPN | SPGMSQQGGPG | 923 | | | | | | |
| Pavo_cristatus | G---- | INANSOMHGOGPSQPCSTMP LGRMP | SAGMOSRPFPGNMSSMTPN | SPGMSQQGGPG | 415 | | | | | | |
| Pavo_muticus | G---- | INANSOMHGOGPSQPCSTMPLGRMP | SAGMOSRPFPGNMSSMTPN | SPGMSQQGGPG | 415 | | | | | | |
| Chelonia_mydas | G---- | INANSOMHGOGPSQPCGTMPLGRMP | SAGMOSRPFPGNMSSMTPN | SPGMSLQGGPG | 993 | | | | | | |
| Mus_musculus | G---- | INANNOMHGOGPAQPCGAMPLGRMP | SAGMONRPFPFGTMSVTP | SSPGMSQQGGPG | 872 | | | | | | |
| Rattus_norvegicus | G---- | INANNOMHGOGPTOPCGAMPLGRMP | SAGMOSRPFPGNMSSVPP | SSPGMSQQGGPG | 993 | | | | | | |
| Homo_sapiens | G---- | ISANNOMHGOGPSQPCGA VPLGRMP | SAGMONRPFPFGNMSSMT | PSSPGMSQQGGPG | 1000 | | | | | | |
| Callithrix_jacchus | G---- | ISANNOMHGOGPSQPCGA VPLGRMP | SAGMONRPFPFGNMSSMT | PSSPGMSQQGGPG | 1005 | | | | | | |
| Macaca_mulatta | G---- | ISANNOMHGOGPSQPCGA VPLGRMP | SAGMONRPFPFGNMSSMT | PSSPGMSQQGGPG | 933 | | | | | | |
| Canis_lupus_familiaris | G---- | INANNOMHGOGPSQPCGAMPLGRMP | SAGMONRPFPFGNMSSMT | PSSPGMSQQGGPG | 1061 | | | | | | |
| Equus_caballus | G---- | INANNQIHGOGPSQPCGAMPLGRMP | SAGMONRPFPFGNMSSMT | PSSPGMSQQGGPG | 936 | | | | | | |
| Bos_taurus | G----- | VNANSOMHGOGPSQPCGAMPLGRVP | SAGMONRPFPFGNMSSMT | PSSPGMSQQGGPG | 963 | | | | | | |
| Latimeria_chalumnae | GNSMG | NTNSIQIHGVPSQPCGTMP MGRMP | SAGMPSRAFSGSISNMT | PNPSPGMPOQGGPG | 915 | | | | | | |
| Rhinatrema_bivittatum | G----- | INANNQIHGOGPSQPCGTL SGRMP | SAGMONRPFPFGNMSSMT | PNSP----- | G | | | | | | |
| Xenopus_tropicalis | N---- | MNANSQIHGOGPS--- | GSMSGRMPEGNAMONRTYATNGNL | PPNSSSMSSQQGTFG | 964 | | | | | | |
| | | 1090..... | 1100..... | 1110..... | 1120..... | 1130..... | 1140 | | | | |

| | ****.*:*****.* | |
|------------------------|--|------|
| Gallus_gallus | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSR | 953 |
| Pavo_cristatus | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSR | 445 |
| Pavo_muticus | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSR | 445 |
| Chelonia_mydas | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSRPPYIRSPAYPSQSGAGGRPMFSSQHPNYGS | 1053 |
| Mus_musculus | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSR | 902 |
| Rattus_norvegicus | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSR | 1023 |
| Homo_sapiens | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSR | 1030 |
| Callithrix_jacchus | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSRPPYIRSPAYPSQSGAGGRPMFSSQHPNYGN | 1065 |
| Macaca_mulatta | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSRPPYIRSPAYPSQSGAGGRPMFSSQHPNYGN | 993 |
| Canis_lupus_familiaris | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSRPPYIRSPAYPSQSGAGGRPMFSSQHPNYGN | 1121 |
| Equus_caballus | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSRPPYIRSPAYPSQSGAGGRPLFSSQHPNYGT | 996 |
| Bos_taurus | MGPPMPTVNRKAQEA AAAAVMQAAANSAQSRPPYIRSPAYPSQSGAGGRPMFSSQHPNYGN | 1023 |
| Latimeria_chalumnae | MGPPMPTVNRKAQEA AAAAVMQAAANSAQNRPPYIRSPAYPSQSGPGGRPMFSSQHPNYGN | 975 |
| Rhinatrema_bivittatum | MGPPVPTVNRKAQEA AAAAVMQAAANSAQNR | 832 |
| Xenopus_tropicalis | MGPPMPTVNRKAQEA AAAAVMQAAANSAQNRPPYIRSPYTPSQSGAGGRPMFSSQHPNYGN | 1024 |
| |1150.....1160.....1170.....1180.....1190.....1200 | |

| | | * . * . * . * | : : * | * . * . . . * | : | * . . . * | * | : | ***: | |
|------------------------|----------------|---|---------------|---------------|---|-----------|---|---|------|--|
| Gallus_gallus | ----- | QGNFPAMNQSGIMGSSSPYTOPMNNSSGLMNPOAPPYSMAPNMVNSS | 1000 | | | | | | | |
| Pavo_cristatus | ----- | QGNFPAMNQSGIMGSSSPYTOPMNNSSGLMNPOAPPYSMAPNMVNSS | 492 | | | | | | | |
| Pavo_muticus | ----- | QGNFPAMNQSGIMGSSSPYTOPMNNSSGLMNPOAPPYSMAPNMVNSS | 492 | | | | | | | |
| Chelonia_mydas | AQAPMMHQPDPQYG | GSFFPGMNQSGIMGSSSPYTOPMNNSSGLMNPOAPPYSMAPNMVNSS | 1113 | | | | | | | |
| Mus_musculus | ----- | QSFFPGMNQSLVASSSPYSQPMNNSSLMSTQAQPYSMITPTMVNSS | 949 | | | | | | | |
| Rattus_norvegicus | ----- | QSFFPGMNQSLVASSSPYSQPMNNSNLMGTOAQPYSMITPTMVNSS | 1070 | | | | | | | |
| Homo_sapiens | ----- | QSFFPGMNQSLMASSSPYSQPMNNSSLMNTQAAPPYSMAPAMVNSS | 1077 | | | | | | | |
| Callithrix_jacchus | SQAPMAHQPDQYG | GSFFPGMNQSLMASSSPYSQPMNNSSLMNTQAAPPYSMAPAMVNSS | 1125 | | | | | | | |
| Macaca_mulatta | SQAPMVHQPDQYG | GSFFPGMNQSLMASSSPYSQPMNNSGLMNTQAAPPYSMAPAMVNSS | 1053 | | | | | | | |
| Canis_lupus_familiaris | SQAPMMHQPDQYG | GSFFPGMNQSLMASSSPYSQPVNNSGLMNTQAAPPYSMTIPNVNSS | 1181 | | | | | | | |
| Equus caballus | SQAPVLHQPDQYG | GSFFPGMNQSLMASSSPYSQPMNNSGLMNAQAPPYSMTIPNVNSS | 1056 | | | | | | | |
| Bos_taurus | SQAPMMHQPDQYG | GGFFPGMNQSLMASSSPYSQPMNNSGLMNTQAAPPYSMTIPNVNSS | 1083 | | | | | | | |
| Latimeria_chalumnae | AQAPMMHQPDQYG | GSFFPGMNQSGMMGSSSPYSQPMNNSGMNTPQGPSYNMAANLVNSS | 1035 | | | | | | | |
| Rhinatrema_bivittatum | ----- | QASFPAMNASALLGCSSPYSOPLNSNSAMNPQAAPY----NMVNST | 875 | | | | | | | |
| Xenopus_tropicalis | AQVSMMHTDQYGO | SGFFPGMNQSGLMGNSAYNSMSNSGMNNSQSPYN---MMNSS | 1080 | | | | | | | |
| |1210..... | 1220.....1230.....1240.....1250.....1260 | | | | | | | | |

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|------------------------|---|---|---|----|---|-----|-----|---|-----|---|---|---|---|---|---|---|---|-----|---|----|---|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------|------|
| Gallus_gallus | T | G | N | A | P | M | G | L | - | A | D | M | T | P | - | G | E | S | K | L | P | L | P | L | K | A | D | G | K | E | E | G | A | P | O | P | E | S | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1058 | |
| Pavo_cristatus | T | G | N | A | P | M | G | L | - | A | D | M | T | P | - | G | E | S | K | L | P | L | P | L | K | A | D | G | K | E | E | G | A | P | O | P | E | S | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 550 | |
| Pavo_muticus | T | G | N | A | P | M | G | L | - | A | D | M | T | P | - | G | E | S | K | L | P | L | P | L | K | A | D | G | K | E | E | G | A | P | O | P | E | S | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 550 | |
| Chelonia_mydas | T | G | N | A | P | M | G | L | - | A | D | M | T | P | - | G | E | S | K | L | P | L | P | L | K | V | D | G | K | E | E | G | P | P | O | P | E | S | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1171 | |
| Mus_musculus | T | - | - | A | S | M | G | L | - | A | D | M | M | S | P | - | S | E | S | K | L | S | V | P | L | K | A | D | G | K | E | E | G | V | S | O | P | E | S | K | S | K | D | S | Y | G | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1005 |
| Rattus_norvegicus | T | - | - | A | S | M | G | L | - | T | D | M | M | S | P | - | S | E | S | K | L | S | V | P | L | K | A | D | G | K | E | E | G | V | P | O | P | E | S | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1126 |
| Homo_sapiens | A | - | - | A | S | V | G | L | - | A | D | M | M | S | P | - | G | E | S | K | L | P | L | P | L | K | A | D | G | K | E | E | G | T | P | O | P | E | S | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1133 |
| Callithrix_jacchus | A | - | - | A | S | M | G | L | - | A | D | M | M | S | P | - | G | E | S | K | L | P | L | P | L | K | A | D | G | K | E | E | G | T | P | O | P | E | S | K | S | K | D | S | H | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1181 |
| Macaca_mulatta | T | - | - | A | S | M | G | L | - | A | D | M | M | S | P | - | G | E | S | K | L | P | L | P | L | K | A | D | G | K | E | E | G | T | P | O | P | E | S | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1109 |
| Canis_lupus_familiaris | A | - | - | A | S | M | G | L | - | A | D | M | M | S | P | - | G | E | S | K | L | P | M | P | L | K | A | D | G | K | E | E | G | A | P | O | P | E | S | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1237 |
| Equus_caballus | T | - | - | A | S | M | G | L | - | A | D | M | M | S | P | - | G | D | S | K | L | P | V | P | L | K | A | D | G | K | E | E | G | T | A | O | P | E | S | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1112 |
| Bos_taurus | T | - | - | A | S | M | G | L | - | A | D | M | M | S | P | - | S | E | S | K | L | P | L | P | L | K | A | D | G | K | E | E | G | S | T | O | P | E | G | K | S | K | D | S | Y | S | S | Q | G | I | S | Q | P | P | T | P | G | N | L | P | 1139 |
| Latimeria_chalumnae | T | - | - | A | P | M | G | L | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | **.*.*.*:*****:*****:.*:* :*.*.*.*:*.*** | |
|------------------------|--|------|
| Gallus_gallus | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 1118 |
| Pavo_cristatus | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 610 |
| Pavo_muticus | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 610 |
| Chelonia_mydas | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGSEPERK | 1231 |
| Mus_musculus | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 1065 |
| Rattus_norvegicus | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGTEPERK | 1186 |
| Homo_sapiens | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 1193 |
| Callithrix_jacchus | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 1241 |
| Macaca_mulatta | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 1169 |
| Canis_lupus_familiaris | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 1297 |
| Equus_caballus | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 1172 |
| Bos_taurus | VPSPMSPSSASISSFHGDESDSISSPGWPKTPSSPKSSSSTTTGEKITKVYELGNEPERK | 1199 |
| Latimeria_chalumnae | VPSPISPSSASISSFHGDESDSISSPGWPKTPSSPKSATSATGDKIVKLYEMGAEAERK | 1152 |
| Rhinatrema_bivittatum | --SPMSPSTASISSFHGDESDSISSPGWPQTSSSPKSSFSTT--EKITKLYEMGSEPERK | 980 |
| Xenopus_tropicalis | VPSPSPSSASISSFHGDESDSISSPGWPKTPSSPKASSSTTTGEKITKLYELGNEPERK | 1196 |
| |1330.....1340.....1350.....1360.....1370.....1380 | |

| | :*:*** ***:~*.~.:~.:~:*****~**~.*~*****~::~~* | |
|------------------------|---|------|
| Gallus_gallus | MWVDRYLTFMEERGTPVASLPVAGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATTLN | 1178 |
| Pavo_cristatus | MWVDRYLTFMEERGTPVASLPVAGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATTLN | 670 |
| Pavo_muticus | MWVDRYLTFMEERGTPVASLPVAGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATTLN | 670 |
| Chelonia_mydas | MWVDRYLTFMEERGTPVASLPVAGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATNLN | 1291 |
| Mus_musculus | LWVDRYLTFMEERGSVPSSSLPAVGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATNLN | 1125 |
| Rattus_norvegicus | LWVDRYLTFMEERGSVPSSSLPAVGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATNLN | 1246 |
| Homo_sapiens | LWVDRYLTFMEERGSVPSSSLPAVGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATNLN | 1253 |
| Callithrix_jacchus | LWVDRYLTFMEERGSVPSSSLPAVGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATNLN | 1301 |
| Macaca_mulatta | LWVDRYLTFMEERGSVPSSSLPAVGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATNLN | 1229 |
| Canis_lupus_familiaris | LWVDRYLTFMEERGSVPSSSLPAVGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATNLN | 1357 |
| Equus caballus | LWVDRYLTFMEERGSVPSSSLPAVGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATNLN | 1232 |
| Bos_taurus | LWVDRYLTFMEERGSVPSSSLPAVGKKPLDLFRLYVCVKEIGGLAQVNKNKKWRELATNLN | 1259 |
| Latimeria_chalumnae | LWVDRYLLFMEEKGTPVINMPAVGKKPLDLFRLYVCAKEIGGLAQVNKNKKWRELASNLN | 1212 |
| Rhinatrema_bivittatum | MWVERYLSFMEDRGTPISNLPVSGKKPLDLLRLYLCVKEIGGLAQVNKNKKWREMASNLC | 1040 |
| Xenopus_tropicalis | MWVDRYLTFMEERGTPVANLPVAGKKPLDLVRLYFCVKEIGGLAQVNKNKKWRELSSNLN | 1256 |
| |1390.....1400.....1410.....1420.....1430.....1440 | |

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***** *****:*****:*. . ::** **:*:*****
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKIQPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKIQPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKIQPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKIQPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKTERGEEPPPEVFSTGDSKKQPKLOPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDAKKQPKLOPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKLOPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKLOPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKLOPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKLOPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKLOPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSSGETKKQPKLOPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSTGDTKKQPKLOPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEVFSSAESKKQPKIQPPSPANSGSLQ
IGTSSSAASSLKKQYIQLFAFECKTERGEEDPPEVFNSTDAKKLPKIQPPSPANSGSLQ
VGTSSSAASSLKKQYIQLFAFECKIERGEEPPPEIFNPGESKKQPKIQPPSPANSGSLQ
.....1450.....1460.....1470.....1480.....1490.....1500

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**::****:**.**:*. :*****.***** ** ..*...:.*:***.*.*::: *
GPQTPQSTGNSMTEVPGDLKPPTPASTPHGQMTPMQGGGRNSAVSVHDPFSDVSDSAFPK
GPQTPQSTGNSMTEVPGDLKPPTPASTPHGQMTPMQGGGRNSAVSVHDPFSDVSDSAFPK
GPQTPQSTGNSMTEVPGDLKPPTPASTPHGQMTPMQGGGRNSAVSVHDPFSDVSDSAFPK
GPQTPQSTGNSMTEVPGDLKPPTPASTPHGQMTPMQGGGRNSAVSVHDPFSDVSDSAFPK
GPQTPQSTGNSMAEVPGLKPPTPASTPHGQMTPMQSGRSSSTVSVHDPFSDVSDSAYPK
GPQTPQSTGSSMAEVPGLKPPTPASTPHGQMTPMQSGRSSSTVSVHDPFSDVSDSAYPK
GPQTPQSTGNSMAEVPGLKPPTPASTPHGQMTPMQGGRSSSTISVHDPFSDVSDSSFPK
GPQTPQSTGNSMAEVPGLKPPTPASTPHGQMTPMQGGRSSSTISVHDPFSDVSDSSFPK
GPQTPQSTGNSMAEVPGLKPPTPASTPHGQMTPMQGGRSSSTISVHDPFSDVSDSSFPK
GPQTPQSTGNSMAEVPGLKPPTPASTPHGQMTPMQGGRSSSTVSVHDPFSDASDSSFPK
GPQTPQSTGNSMAEVPGLKPPTPASTPHGQMTPMQGGRSSSTVSVHDPFSDASDASFPK
GPQTPQSTGNSMAEVPGLKPPTPASTPHGQMTPMQGGRSSSTVSVHDPFSDASESSFPK
GPQTPQSSGSSMAEAP-DLKPPTPVSTPHGQMPPMQGSRTGAINVQDPFCDASDTTFQK
GPQTPQSTGNSMAEMPGLKPPTPASTPHGQMPPMPGSRNSSSVQDPFSDVSDSSFPK
GPHTPQSTGNSMAEMSLKPPTPASTPHGQLQPMQGGGRNSAVSVQDPFSDTSDSSFPK
.....1510.....1520.....1530.....1540.....1550.....1560

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*****..****:.:*:***.:*****.*:*****.:*:** ** * *.:**:*
RNSMTPNAPYQQGINMPDMMGRMPYEPNKDPFGGMRKVPGSNPEPFMTPGQMPNSGIQDMY
RNSMTPNAPYQQGINMPDMMGRMPYEPNKDPFGGMRKVPGSNPEPFMTPGQMPNSGIQDMY
RNSMTPNTPYQQGINMPDMMGRMPYEPNKDPFGGMRKVPGSNPEPFMTPGQMPNSGIQDMY
RNSMTPNAPYQQGMNMPDMMGRMPYEPNKDPFGGIRKVPGSSEPFMAPGMPNSGIQDIY
RNSMTPNAPYQQGMMPDMMGRMPYEPNKDPFGSGMRKVPGSSSEPFMTQGQVPNSGMQDMY
RNSMTPNAPYQQGMMPDMMGRMPYEPNKDPFGSGMRKVPGSSSEPFMTQGQMPNSSMODMY
RNSMTPNAPYQQGMSMPDVMGRMPYEPNKDPFGGMRKVPGSSSEPFMTQGQMPNSSMODMY
RNSMTPNAPYQQGMSMPDVMGRMPYEPNKDPFGGMRKVPGSSSEPFMTQGQMPNSSGMQDVY
RNSMTPNAPYQQGMSMPDVMGRMPYEPNKDPFGGMRKVPGSSSEPFMTQGQMPNSSMODMY
RNSMTPSTPYQQGMSMPDVMGRMPYEPNKDPFGGMRKVPGSSSEPFMTQGQMPASSMODMY
RNSMTPSPAPYQQGMSMPDVMGRMPYEPNKDPFGGMRKVPGSSSEPFMTQGQMPTSSMODMY
RNSMTPSTPYQQGMSMPDVMGRMPYEPNKDPFGGMRKVPGSSSEPFMTQGQMPTSSMODMY
RNSMTPNAPYQQGMNQDVMGRTSYEPNKDPFGGMRKVPGSNPEPFMTSPGQLPNSGMQDMY
RNSMTPNALYQQGMNMPDMMGRIPYEPNKDPFGGMRKVPGNNDTFLPSGQAPSGMQDMY
RNSMTPNVPYQQGMNLPDMMGRMPFEFNKDPFGGMRKVPGSSSEHFMAPGMPSSNMQDMY
.....1570.....1580.....1590.....1600.....1610.....1620

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| | ..**.. | * *:.** | . *** | |
|------------------------|----------------|---------------|--|------|
| Gallus_gallus | NQSPSGAMSNMSMS | QRQQFSYG | -SGYDRRSDHGLGPEGSMGPPGQSNMVPNSNDPSMYSP | 1417 |
| Pavo_cristatus | NQSPSGAMSNMSMS | QRQQFSYG | -SG-DRRSDHGLGPEGSMGPPGQSNMVPNSNDPSMYSP | 908 |
| Pavo_muticus | NQSPSGAMSNMSMS | QRQQFSYG | -SG-DRRSDHGLGPEGSMGPPGQSNMVPNSNDPSMYSP | 908 |
| Chelonia_mydas | NQTPSGAMSTMSMS | QRQQFSYG | -SGYDRRSDHGLGPEGSMGPPGQSNMVPNSNDPSMYSP | 1530 |
| Mus_musculus | NQSPSGAMSNLGMG | QRQQFPYG | -TSYDRR----- | 1333 |
| Rattus_norvegicus | NQSPSGAMSNLGMG | QRQQFPYG | -TSYDRR----- | 1454 |
| Homo_sapiens | NQSPSGAMSNLGMG | QRQQFPYG | -ASYDRR----- | 1461 |
| Callithrix_jacchus | SQSPSGAVS | SLGMGQRQQFPYG | -ASYDRR----- | 1509 |
| Macaca_mulatta | NQSPSGAMSNLGMG | QRQQFPYG | -ASYDRR----- | 1437 |
| Canis_lupus_familiaris | NQSPSGAMS | SLGMGQRQQFPYG | -ASYDRR----- | 1565 |
| Equus_caballus | NQSPSGAMS | SLGLGQRQQFPYG | -ASYDRR----- | 1440 |
| Bos_taurus | NQSPSGAMS | SLGMGPRQQFPYG | -TSYDRR----- | 1467 |
| Latimeria_chalumnae | NRVPSGAMSNMGMG | QRQQYPYG | -PGYDRRDPYGMGPEGSMGPPGQTMMVPNSNDPSLYSP | 1450 |
| Rhinatrema_bivittatum | SQSTSGVLG | -----QRQQFSYG | -PGYDRRSEHGLGPEGSMGPPVHNSMVPNSNDPSMYSP | 1274 |
| Xenopus_tropicalis | NQTPSGVMSNIGMS | QRQQFSYG | PGGYDRRSEYGMGAEGSMGPPGQNSMAPNSDPGMYSP | 1496 |
| |1630..... | 1640..... | 1650.....1660.....1670.....1680 | |

| | **.*****.*****:*.*.*.*.*:****.*****.*.*.*.*.* | |
|------------------------|--|------|
| Gallus_gallus | NRYPGQQRHEPYGQOYPGQGPPSGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 1476 |
| Pavo_cristatus | NRYPGQQRHEPYGQOYPGQGPPSGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 967 |
| Pavo_muticus | NRYPGQQRHEPYGQOYPGQGPPSGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 967 |
| Chelonia_mydas | NRYPGQQRHEPYGQOYPGQGPPSGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 1589 |
| Mus_musculus | -----HEAYGQOYPGQGPPGTGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 1384 |
| Rattus_norvegicus | -----HEAYGQOYPGQGPPGTGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 1505 |
| Homo_sapiens | -----HEPYGQOYPGQGPPSGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 1512 |
| Callithrix_jacchus | -----HEPYGQOYPGQGPPSGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 1560 |
| Macaca_mulatta | -----HEPYGQOYPGQGPPSGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 1488 |
| Canis_lupus_familiaris | -----HEPYGQOYPGQGPPSGOPPYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 1616 |
| Equus_caballus | -----HEPYGQOYPGQGPPSGOPAYGGHQPGLYPOQPNYKRHMDGMYGPPAKR-HEG | 1491 |
| Bos_taurus | -----HEPYGQOYPGQGPPSGOPSYGGHQPGLYPOQTNYKRHMDGMYGPPAKR-HEG | 1518 |
| Latimeria_chalumnae | NRYPAQQRHESYGQOYPGQGPPSGSPYGGHQPGLYPOQPNYKRHLDGMYGPPVKRHHEG | 1510 |
| Rhinatrema_bivittatum | NRYPAQQRHEPYGQOYPGQGPPSGOPPYAGHQSGMYPOQPNYKRHMDGIYGPPAKR-HEG | 1333 |
| Xenopus_tropicalis | NRYPHQQRHEPYGQOYSGQPPSGOPPYAGHQSGMYPOQPNYKRHMDSMYVPAKR-HEG | 1555 |
| |1690.....1700.....1710.....1720.....1730.....1740 | |

| | | |
|------------------------|---|--------|
| | *.**.**..***.*****.:*:~:***:.****.:.....* | .:*::~ |
| Gallus_gallus | DMYNMQYGNQQOEMYNQYSNAYS GPDRRP MGO QYP YPNRERM OGPGOMQ-Q-HGIPPOMI | 1535 |
| Pavo_cristatus | DMYNMQYGNQQOEMYNQYSNAYS GPDRRP MGO QYP YPNRERM OGPGOMQ-Q-HGIPPOMI | 1026 |
| Pavo_muticus | DMYNMQYGNQQOEMYNQYSNAYS GPDRRP MGO QYP YPNRERM OGPGOMQ-Q-HGIPPOMI | 1026 |
| Chelonia_mydas | DMYNMQYGNQQOEMYNQYSNTYS GPDRRP IGO QYP YPNRERM OGPGOI IQ-HGIPPOMI | 1648 |
| Mus_musculus | DMYNMQYGS QQOEMYNQYGSSYS GPDRRP IGO QYP YPNRERM OGPGOMQP -HGIPPOMM | 1443 |
| Rattus_norvegicus | DMYNMQYGS QQOEMYNQYGSSYS GPDRRP IGO QYP YPNRERM OGPGOMQP -HGIPPOMM | 1564 |
| Homo_sapiens | DMYNMQYSS QQOEMYNQYGSSYS GPDRRP IGO QYP PYSRERM OGPGOI QT-HGIPPOMM | 1571 |
| Callithrix_jacchus | DMYNMQYSS QQODMYNQYGSSYS GPDRRP IGO QYP PYSRERM OGPGOI QT-HGIPPOMM | 1619 |
| Macaca_mulatta | DMYNMQYSS QQOEMYNQYGSSYS GPDRRP IGO QYP PYSRERM OGPGOI QT-HGIPPOMM | 1547 |
| Canis_lupus_familiaris | DMYNMQYGNQQOEMYNQYGSSYS GPDRRP IGO QYP YPNRERM OGPGOI QP-HGIPPOMM | 1675 |
| Equus caballus | DVYNMQYGNQQOEMYNQYGASYS GPDRRP IGO QYP YPNRERM OGPGOMQP -HGIPPOMM | 1550 |
| Bos_taurus | DMYNMQYGS QQOEMYNQYGSSYS GPDRRP LGO QYP YPNRERM OGPGOI QP- HAIPPOMM | 1577 |
| Latimeria_chalumnae | DMYNMQYSNQOODMYNQYSTYS GPERRPL GO QYP PFNRERM OGPGOMQ-Q-HGMPPOMI | 1569 |
| Rhinatrema_bivittatum | DIYNLQYSNQOOEMYNQYGMTYAGADRRPVQA OYP PAYNRERM OGPGOL QQQH-GIPPOMI | 1393 |
| Xenopus_tropicalis | DMYNMQYGS QQOEDMYNQYNSYS GQERRPVGO QYP YPNRERM OGPGOMQ-Q-HSMGSQLM | 1614 |
| |1750.....1760.....1770.....1780.....1790.....1800 | |

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Gallus_gallus      GGPMQSSSSSEGPQONMWPTTRNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPDORIN 1595
Pavo_cristatus    GGPMQSSSSSEGPQONMWPTTRNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPDORIN 1086
Pavo_muticus      GGPMQSSSSSEGPQONMWPTTRNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPDORIN 1086
Chelonia_mydas    GGPMQSSSTSEGPQONMWPTTRNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPDORIN 1708
Mus_musculus      GGPMQSSSS-SEGPQONMWATRNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPEORIN 1502
Rattus_norvegicus GGPMQSSSS-NEGPQONMWATRNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPDORIN 1623
Homo_sapiens      GGPLQSSSS-SEGPQONMWAARNDMPYPYQNRQGPGGPTQAPPYPGMNRTDDMMVPDORIN 1630
Callithrix_jacchus GGPLQSSSS-SEGPQONMWAARNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPDORIN 1678
Macaca_mulatta    GGPLQSSSS-SEGPQONMWAARNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPDORIN 1606
Canis_lupus_familiaris GGPMQSSSS-SEGPQOSMWATRNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPDORIN 1734
Equus_caballus    GGPMQSSSS-SEGPQOSLWATRNDMPYPYQNRQGPGGPAQAPPYPGMNRTDDMMVPDORIN 1609
Bos_taurus        GGPMQSSSS-NEGPQOSMWATRNDMPYPYQNRQGPGGPTQAPPYPGINRTDDMMVPDORIN 1636
Latimeria_chalumnae GGPMQSSSG-GDVPQQNIWQSRNDMPYPYQNRQGPGGPSQAPPYSAMNRTDDMMVPDORIN 1628
Rhinatrema_bivittatum AGPMQSSA-SEGPQONMWPARNDMSYPYQNRQGPGGPAQASAYPALNRTDDMLAPEORMN 1452
Xenopus_tropicalis GGSMQSSA-SEGAQONMWTSRNDMPYSYQVROGPASTTQTGSYSAMNRSDEMMGPDORMN 1673
.....1810.....1820.....1830.....1840.....1850.....1860

*:****.****. *:****. *:****. *****.*****.*****. *****.
Gallus_gallus      HESQWPSHVNRQPSYMSSSASMQPITRPPQSSYQTPPSMPNHISRAPSPASFORSLENR 1655
Pavo_cristatus    HESQWPSHVNRQPSYMSSSASMQPITRPPQSSYQTPPSMPNHISRAPSPASFORSLENR 1146
Pavo_muticus      HESQWPSHVNRQPSYMSSSASMQPITRPPQSSYQTPPSMPNHISRAPSPASFORSLENR 1146
Chelonia_mydas    HESQWPSHVNRQPSYMSSSASMQPITRPPQSSYQTPPSMPNHISRAPSPASFORSLENR 1768
Mus_musculus      HESQWPSHVSQRQP-YMSSSSASMQPITRPPQSSYQTPPSLPNHISRAPSPASFORSLESR 1561
Rattus_norvegicus HESQWPSHVSQRQP-YMSSSSASMQPITRPPQSSYQTPPSLPNHISRAPSPASFORSLESR 1682
Homo_sapiens      HESQWPSHVSQRQP-YMSSSSASMQPITRPPQSSYQTPPSLPNHISRAPSPASFORSLENR 1689
Callithrix_jacchus HESQWPSHVSQRQP-YMSSSSASMQPITRPPQSSYQTPPSLPNHISRAPSPASFORSLENR 1737
Macaca_mulatta    HESQWPSHVSQRQP-YMSSSSASMQPITRPPQSSYQTPPSLPNHISRAPSPASFORSLENR 1665
Canis_lupus_familiaris HESQWPSHVSQRQP-YMSSSSASMQPITRPPQSSYQTPPSLPNHISRAPSPASFORSLESR 1793
Equus_caballus    HESQWPSHVSQRQP-YMSSSSASMQPITRPPQSSYQTPPSLPNHISRAPSPASFORSLESR 1668
Bos_taurus        HESQWPSHVSQRQP-YMSSSSASMQPITRPPQSSYQTPPSLPNHISRAPSPASFORSLESR 1695
Latimeria_chalumnae HESQWPSHINRQPSYITTSASMPPIRPPQSSYQTPPSMPNHISRAPSPASFORSLENR 1688
Rhinatrema_bivittatum HEGQWTSHLNRQPSYMSSSASMQPVTRPPQSSYQTPPSMPNHVSRAPSPASFORSLESR 1512
Xenopus_tropicalis HDNQWSHGNRQPSYMSPTAAMQPIRAPPSSYQTPPSMPNHISRAPSPASFORSLENR 1733
.....1870.....1880.....1890.....1900.....1910.....1920

:****.*****:***. *:*****: : :*****.*****: :*:*** :*:
Gallus_gallus      MSPSKSPFLPSMKMQKVMPTVPVSQVTGPPPQPPPIRREITFPPGSVEASQPVLKPRRKI 1715
Pavo_cristatus    MSPSKSPFLPSMKMQKVIPTVPVSQVTGPPPQPPPIRREITFPPGSVEASQPVLKPRRKI 1206
Pavo_muticus      MSPSKSPFLPSMKMQKVIPTVPVSQVTGPPPQPPPIRREITFPPGSVEASQPVLKPRRKI 1206
Chelonia_mydas    MSPSKSPFLPSMKMQKVIPTVPVSQVTGPPPQPPPIRREITFPPGSVEASQPVLKPRRKI 1828
Mus_musculus      MSPSKSPFLPTMKMQKVMPTVPTSQVTGPPPQPPPIRREITFPPGSVEASQPILKORRKI 1621
Rattus_norvegicus MSPSKSPFLPAMKMQKVMPTVPTSQVTGPPPQPPPIRREITFPPGSVEASQPVLKORRKI 1742
Homo_sapiens      MSPSKSPFLPSMKMQKVMPTVPTSQVTGPPPQPPPIRREITFPPGSVEASQPVLKORRKI 1749
Callithrix_jacchus MSPSKSPFLPSMKMQKVMPTVPASQVTGPPPQPPPIRREITFPPGSVEASQPVLKORRKI 1797
Macaca_mulatta    MSPSKSPFLPSMKMQKVMPTVPASQVTGPPPQPPPIRREITFPPGSVEASQPVLKORRKI 1725
Canis_lupus_familiaris MSPSKSPFLPSLKMQKVLPTVPTPQVTGPPPQPPPIRREITFPPGSVEASQPVLKORRKI 1853
Equus_caballus    MSPSKPPFLPSMKMQKVMPTVPTSQVTGPPPQPPPIRREITFPPGSVEASQPVLKORRKI 1728
Bos_taurus        MSPSKSPFLPSMKMQKVMPTVPTSQVTGPPPQPPPIRREITFPPGSVEASQPVLKORRKI 1755
Latimeria_chalumnae MSPSKSPFLPSVKMQKGMPPVPASQVTVPPAQPPPIRREITFPPGSVEATPPVLKARRKI 1748
Rhinatrema_bivittatum LSPSKSPFLPSMKMSKAVPTAPTSHMSG----HPPVRREITFPPGSVEATQPILKPRRKI 1568
Xenopus_tropicalis MSPSKSPFLPSMKMQKALPTTTTSOSTVTSF-QVPVRREITFPPGSVEATQPILKPRRKI 1792
.....1930.....1940.....1950.....1960.....1970.....1980

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*.:***:***** *****:*.**.*:*.*****
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFSLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSSVSTFNLTQLPGFLELLVEY
TSKDIVTPEAWRVMSLSGLLAGSTWALDTINILLYDDSTVATFNLSQLSGFLELLVEY
TAKDIVTPEAWRVMSLSGLLAESTWALDTINILLYDDSTVATFNLSQLPGFLELLVEY
.....1990.....2000.....2010.....2020.....2030.....2040

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***** : . : ** : . : * : :
FRKCLIDIFGILMEYEVGDPGHKALDHKS AKKDD--SQSLAEDTGKEE-NDECIDCFDEE 1832
FRKCLIDIFGILMEYEVGDPGHKALDHKS AKKDD--NQSLTEDTGKEE-NDECIDCFDEE 1323
FRKCLIDIFGILMEYEVGDPGHKALDHKS AKKDD--NQSLTEDTGKEE-NDECIDCFDEE 1323
FRKCLIDIFGILMEYEVGDPGHKALDHNAVKDD--SQSLAVDTGKEENDECIDYFEE 1946
FRKCLIDIFGILMEYEVGDPSQKALDHRS GKKDD--SQSLEDDSGKEDDDAECIVEEEE 1739
FRKCLIDIFGILMEYEVGDPSQRALDHRTGKKDD--SQSSEDDSGKEEDDAECLEEEEE 1860
FRKCLIDIFGILMEYEVGDPSQKALDHNAARKDD--SQSLADDSGKEEEDAECIDDDDEE 1867
FRKCLIDIFGILMEYEVGDPSQKALDHNAARKDD--SQSLTEDSGKEEEDAECIDDDDEE 1915
FRKCLIDIFGILMEYEVGDPSQKALDHNAARKDD--SQSLADDSGKEEEDAECIDDDDEE 1843
FRKCLIDIFGILMEYEVGDPSQKALDHNAVKRDD--GQSSADDSGKEEDTECVDEED 1971
FRKCLIDIFGILMEYEVGDPSQKALDHHTAKKDD--SQSLADDSGKEEDDAECIDDEE 1846
FRKCLIDIFGILTEYEVGDPSQKALDHNAAKRDD--SQSLADDSGREEDAECIEEEED 1873
FRKCLIDIFGILKEYEVGDPSQNALLDKAAVKKDEETESKADDSGQED----KEDEDEN 1863
FRKCLIDIFGILKEYEVGDPSQKALDHNTTEKNDD--SSSLAE----EEETIYEEEDDE 1682
FRKCLIDIFGILKEYEVGPAVKALSPNTTEDTYS---AMEEEVSLFYSYDTEEDDDFYD 1908
.....2050.....2060.....2070.....2080.....2090.....2100
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.:.:                               * *:*****:.*:.*:***
EEE-----GDDENVEGEEKSIVFSTPGAIAADPSERPQKQASKFQDKLPPIKIVKK 1879
EEE-----GDDENVEGEEKSIVFSTPGAIAADPSERPQKQASKFQDKLPPIKIVKK 1370
EEE-----GDDENVEGEEKSIVFSTPGAIAADPSERPQKQASKFQDKLPPIKIVKK 1370
EEEEEEEE-----DEIEKTEGEEKSTVFATPSAIAADPSERPQKQASKFQDKLPPIKIVKK 1998
EEEEEE-----DSEKIESEGKSSPALAAPDASVDPKETPKQASKFQDKLPPIKIVKK 1789
EEEEEEEEEEEEEEEEEDSKKTESEGKSSSALAAPDTTADPKETPRQASKFQDKLPPIKIVKK 1920
EEDE--EE-----DSEKTESDEKSSIALTAPDAAADPKEKPKQASKFQDKLPPIKIVKK 1917
EEDE--EE-----ESEKTESEEKSSIALTAPDATADPKEKPKQASKFQDKLPPIKIVKK 1965
EEDE--EE-----DSEKTESDEKSSIALTAPDAAADPKEKPKQASKFQDKLPPIKIVKK 1893
DEDEDEE-----DSGKPETE--RSSVTLASPTAPADPKEKPRQASKFQDKLPPIKIVKK 2021
EEDE--EE-----DGGKAAEAEDKSSMPVTSPTADADPKEKPRQASKFQDKLPPIKIVKK 1896
EDEE--EE-----DSGRAETEDRSSAAVASPDATTDLKEKPRQASKFQDKLPPIKIVKK 1923
SEDN-----GENLPETMENGIAAGDSPNAELGIIVEKPKQASKFQDKLPPIKIVKK 1911
EDDE-----YENEQTNEGEKSSDFDTPDANVDPIERPQKQASKFQDKLPPIKIVKK 1730
KEED-----DNLKIEEKGSFYQNSELLTDSSERPQKQASKFQDKLPPIKIVKK 1953
.....2110.....2120.....2130.....2140.....2150.....2160

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*****:::*****.*****:***** *****.*:*  ::  .:
Gallus_gallus      NNLFFVVDSDKLGRVQEFDSGLLHWQLGGGDTEHIQTHFESKMEIPPRRKAPPPSNSPS 1939
Pavo_cristatus     NNLFFVVDSDKLGRVQEFDSGLLHWQLGGGDTEHIQTHFESKMEIPPRRKAPPPSNSPS 1430
Pavo_muticus       NNLFFVVDSDKLGRVQEFDSGLLHWQLGGGDTEHIQTHFESKMEIPPRRKAPPPSNSPS 1430
Chelonia_mydas     NNLFFVVDSDKLGRVQEFNSGLLHWQLGGGDTEHIQTHFESKMEIPPRRRAPPALNSPS 2058
Mus_musculus       NKLFFVVDSDKLGRVQEFSSGLLHWQLGGGDTEHIQTHFESKMEIPPRRRPPPPPLSSTG 1849
Rattus_norvegicus  NNLFFVVDSDRLGRVQEFNSGLLHWQLGGGDTEHILTHFESKMEIPPRRRPPAPLSSTG 1980
Homo_sapiens       NNLFFVVDSDKLGRVQEFNSGLLHWQLGGGDTEHIQTHFESKMEIPPRRRPPPPPLSSAG 1977
Callithrix_jacchus NNLFFVVDSDNKLGHVQEFNSGLLHWQLGGGDTEHIQTHFESKMEIPPRRRPPPPPLSSAG 2025
Macaca_mulatta     NNLFFVVDSDKLGRVQEFNSGLLHWQLGGGDTEHIQTHFESKMEIPPRRRPPPPPLSSAG 1953
Canis_lupus_familiaris NNLFFVVDSDKLGRVQEFNSGLLHWQLGGGDTEHIQTHFESKMEIPPRRRPPPALSSAG 2081
Equus_caballus     NNLFFVVDSDKLGRVQEFNSGLLHWQLGGGDTEHIQTHFESKMEIPPRRRPPPPPLSSAG 1956
Bos_taurus         NNLFFVVDSDKLGRVQEFSSGLLHWQLGGGDTEHIQTHFESKMEIPPRRRPPPTLSSTG 1983
Latimeria_chalumnae DDLFVIDRSDKLGRVQEFNSGLLHWQLGGGDTEHIQTHFESKLEVPVRKQVVSFPMGTQN 1971
Rhinatrema_bivittatum NNLFFVVDSDKLGRVQEFNSGLLHWQLGGGDTEHIQTHFESKIEIPFCRRVLPSLNSLS 1790
Xenopus_tropicalis SNLFFVIDRSDRLGRVQEFNSGLLHWQLGGGDTEHIQTHFESKMEIPSHRRTPQSSNSPV 2013
.....2170.....2180.....2190.....2200.....2210.....2220

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:  *:  .  *  **** *****  .  *  .. :  :  *
Gallus_gallus      K---KKDLEGGKGS--EEQQEKSITATIDDVLSARPGALPED--SNSGSGTSSSKFPFGI 1992
Pavo_cristatus     K---KKDLEGGKGS--EEQQEKSITATIDDVLSARPGALPED--SNSGSGTSSSKFPFGI 1483
Pavo_muticus       K---KKDLEGGKGS--EEQQEKSITATIDDVLSARPGALPED--SNSGSGTSSSKFPFGI 1483
Chelonia_mydas     K---KKDLEGGKGEF--EEQHEKSITATIDDVLSARPGALPED--SNPGSGTSSSKFPFGI 2111
Mus_musculus       K---KKELEGKGDS--EEQPEKSIIATIDDVLSARPGALPED--TNPGPQTESGKFPFGI 1902
Rattus_norvegicus  K---KKELAGKGDS--EEQPEKSIIATIDDVLSARPGALPED--SNPGPQTESGKFPFGI 2033
Homo_sapiens       R---KKEQEGKGDS--EEQQEKSIIATIDDVLSARPGALPED--ANPGPQTESGKFPFGI 2030
Callithrix_jacchus R---KKEQEGKGDS--EEQQEKSIIATIDDVLSARPGALPED--ANPGPQTESGKFPFGI 2078
Macaca_mulatta     R---KKEQEGKGDS--EEQQEKSIIATIDDVLSARPGALPED--ANPGPQTESGKFPFGI 2006
Canis_lupus_familiaris R---KREQEGRGEA--EEQQEKSIIATIDDVLSARPGALPED--ANPGTQTESGKFPFGI 2134
Equus_caballus     R---KKEQEGRGDC--EEQQEKSIIATIDDVLSARPGALPED--ANPGAQMESSKFPFGI 2009
Bos_taurus         R---KKDQEGKGDS--DEHQEKSIIATIDDVLSARPGALPED--ANPGTQTESGKFPFGI 2036
Latimeria_chalumnae KEKKKKEVERMGQSK-TEQLEKSIMATIDDVLSARPGALPEDHCSSLQKANSMLFEI 2030
Rhinatrema_bivittatum K---KKREWDGNGPVELEELPEKSIIATIDDVLSARPGALPED--SNNSCSGTSSSKFPFRI 1847
Xenopus_tropicalis K---KKKGHEDIAVAEYEEQPEKSITATIDDVLSARPGALPED--SKNDFLOTESGKLSLGI 2070
.....2230.....2240.....2250.....2260.....2270.....2280

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:::..:*** *:**** .*** *****: *:***:*****:*****:****
HQAQSHRNIKLLEDEPRSRDETPLCTITHWQDSLAKRCICVSNIVRSLSFVPGNDTEMSK 2052
Pavo_cristatus     HQAQSHRNIKLLEDEPRSRDETPLCTITHWQDSLAKRCICVSNIVRSLSFVPGNDTEMSK 1543
Pavo_muticus       HQAQSHRNIKLLEDEPRSRDETPLCTITHWQDSLAKRCICVSNIVRSLSFVPGNDTEMSK 1543
Chelonia_mydas     HQAQSHRNIKLLEDEPRSRDETPLCTITHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 2171
Mus_musculus       QQAQSHRNIRLLEDEPRSRDETPLCTIAHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 1962
Rattus_norvegicus  QQAQSHRNIRLLEDEPRSRDETPLCTIAHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 2093
Homo_sapiens       QQAQSHRNIRLLEDEPRSRDETPLCTIAHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 2090
Callithrix_jacchus QQAQSHRNIRLLEDEPRSRDETPLCTIAHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 2138
Macaca_mulatta     QQAQSHRNIRLLEDEPRSRDETPLCTIAHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 2066
Canis_lupus_familiaris HQAQSHRNIRLLEDEPRSRDETPLCTIAHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 2194
Equus_caballus     HQAQSHRNIRLLEDEPRSRDETPLCTIAHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 2069
Bos_taurus         HQARSHRNIRLLEDEPRSRDEAPLCTIAHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 2096
Latimeria_chalumnae HQARNHRNIRLVEDEPRSRDETPLCTIIDWQDSLTKRCICVSNIMRSLSFVPGNDTEMSK 2090
Rhinatrema_bivittatum HQAKNQRNIRLLEDEPTNRDEIPLCTIAHWQDSLAKRCICVSNIVRSLSFVPGNDAEMSK 1907
Xenopus_tropicalis HQAQQHRNITLLEDEPRSRDEIPLCTIAVWKDSLAKRCICVSNIRSLSFVPGNDTEMSK 2130
.....2290.....2300.....2310.....2320.....2330.....2340

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*****:*****:*.:.*:*.:.*****:***:*.:.
Gallus_gallus      HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EEEDKGVACSKDEWWDCLEVLRDNTLV 2111
Pavo_cristatus    HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EEEDKGVACSKDEWWDCLEVLRDNTLV 1602
Pavo_muticus      HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EEEDKGVACSKDEWWDCLEVLRDNTLV 1602
Chelonia_mydas    HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EEEDKGVACSKDEWWDCLEVLRDNTLV 2230
Mus_musculus      HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EDEDKGVACSKDEWWDCLEVLRDNTLV 2021
Rattus_norvegicus HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EDEDKGVACSKDEWWDCLEVLRDNTLV 2152
Homo_sapiens      HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EDEDKGVACSKDEWWDCLEVLRDNTLV 2149
Callithrix_jacchus HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EDEDKGVPCSKDEWWDCLEVLRDNTLV 2197
Macaca_mulatta    HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EDEDKGVACSKDEWWDCLEVLRDNTLV 2125
Canis_lupus_familiaris HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EDEDKGVACSKDEWWDCLEVLRDNTLV 2253
Equus_caballus    HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EDEDKGVACSKDEWWDCLEVLRDNTLV 2128
Bos_taurus        HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EDEDKGVACSKDEWWDCLEVLRDNTLV 2155
Latimeria_chalumnae HPGLVLILGKLILLHHEHPERKRAPQTYEKE-EDEDKGIACSKDEWWDCLEVLRDNTLV 2149
Rhinatrema_bivittatum HPGLVLILGKLILLHHEHPERKRAAQTYEKE-EEEDKGVACSKNEWWDCLDVLRNSLV 1966
Xenopus_tropicalis HPGLVLILGKLILLHHEHPERKRAPQTYEKDGEDNNKGVLCTKDEWWDCLEVLRENTLV 2190
.....2350.....2360.....2370.....2380.....2390.....2400

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*****:*****:*.:.*****:
Gallus_gallus      TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2171
Pavo_cristatus    TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 1662
Pavo_muticus      TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 1662
Chelonia_mydas    TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2290
Mus_musculus      TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2081
Rattus_norvegicus TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2212
Homo_sapiens      TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2209
Callithrix_jacchus TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2257
Macaca_mulatta    TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2185
Canis_lupus_familiaris TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2313
Equus_caballus    TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2188
Bos_taurus        TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGPNSVLSPORLVLETL 2215
Latimeria_chalumnae TLANISGQLDLSAYTESICLPILDGLLHWMVCPSAEAQDPFPTVGLNSVLSPORLVLETL 2209
Rhinatrema_bivittatum TLANISGQLDLSAYTESICLPILDGLLHVVCPSAEAQDPFPTVGLNSVLSPORLVLETL 2026
Xenopus_tropicalis TLANISGQLDLSAYTESICLPILDGMLHWLVCPSAEAQDPFPTVGPISFLSPORLVLETL 2250
.....2410.....2420.....2430.....2440.....2450.....2460

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*****:*****:*** *****:*****:*.:.
Gallus_gallus      CKLSIQDNNVDLILATPPFSRQEKLYATLVRYVGDRKNPVCREMSMALLSNLAQGDTLAA 2231
Pavo_cristatus    CKLSIQDNNVDLILATPPFSRQEKLYATLVRYVGDRKNPVCREMSMALLSNLAQGDTLAA 1722
Pavo_muticus      CKLSIQDNNVDLILATPPFSRQEKLYATLVRYVGDRKNPVCREMSMALLSNLAQGDTLAA 1722
Chelonia_mydas    CKLSIQDNNVDLILATPPFSRQEKLYATLVRYVGDRKNPVCREMSMALLSNLAQGDVLA 2350
Mus_musculus      CKLSIQDNNVDLILATPPFSRQEKFYATLVRYVGDRKNPVCREMSMALLSNLAQGDTLAA 2141
Rattus_norvegicus CKLSIQDNNVDLILATPPFSRQEKFYATLVRYVGDRKNPVCREMSMALLSNLAQGDTLAA 2272
Homo_sapiens      CKLSIQDNNVDLILATPPFSRQEKFYATLVRYVGDRKNPVCREMSMALLSNLAQGDALAA 2269
Callithrix_jacchus CKLSIQDNNVDLILATPPFSRQEKFYATLVRYVGDRKNPVCREMSMALLSNLAQGDTLAA 2317
Macaca_mulatta    CKLSIQDNNVDLILATPPFSRQEKFYATLVRYVGDRKNPVCREMSMALLSNLAQGDALAA 2245
Canis_lupus_familiaris CKLSIQDNNVDLILATPPFSRQEKFYATLVRYVGDRKNPVCREMSMALLSNLAQGDALAA 2373
Equus_caballus    CKLSIQDNNVDLILATPPFSRQEKFYATLVRYVGDRKNPVCREMSMALLSNLAQGDALAA 2248
Bos_taurus        CKLSIQDNNVDLILATPPFSRQEKFYATLVRYVGDRKNPVCREMSMALLSNLAQGDALAA 2275
Latimeria_chalumnae CKLSIQDNNVDLILATPPFSRQEKLYATLVRYVGDRKNPVCREMSVALLSNLAQGDTLAA 2269
Rhinatrema_bivittatum CKLSIQDNNVDLILATPPFSRQEKLYATLVRYVGDRKNPVCREMSMALLSNLAQGDTLVA 2086
Xenopus_tropicalis CKLSIQDNNVDLILATPPFSRQEKLYATLVRYVGDRKNPVCREMSVALLSNLAQGDTLVA 2310
.....2470.....2480.....2490.....2500.....2510.....2520

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*****:*****:*****:*****:*****:*****:*****:*****
Gallus_gallus      RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 2291
Pavo_cristatus    RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 1782
Pavo_muticus      RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 1782
Chelonia_mydas    RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 2410
Mus_musculus      RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 2201
Rattus_norvegicus RAIIVQKGSIGNLIGFLEDGVTMAQYQQSQHTLMHMOPPPLEPPSVDMMCRAAKALLAMA 2332
Homo_sapiens      RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 2329
Callithrix_jacchus RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 2377
Macaca_mulatta    RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 2305
Canis_lupus_familiaris RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLHMHMOPPPLEPPSVDMMCRAAKALLAMA 2433
Equus_caballus    RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 2308
Bos_taurus        RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 2335
Latimeria_chalumnae RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPPLEPPSVDMMCRAAKALLAMA 2329
Rhinatrema_bivittatum RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHVOPPPLEPPSVDMMCRAAKALLAMA 2146
Xenopus_tropicalis RAIIVQKGSIGNLISFLEDGVTMAQYQQSQHNLMHMOPPHLEPPSADMMCRAAKALLAMA 2370
.....2530.....2540.....2550.....2560.....2570.....2580

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:***:*****:*****:*****:*****:*****:*****:*****
Gallus_gallus      RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2334
Pavo_cristatus    RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 1825
Pavo_muticus      RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 1825
Chelonia_mydas    RVDENRSEFLLHEGRLLDISISAVLNSMVASVICDVLFOIGQL 2453
Mus_musculus      RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2244
Rattus_norvegicus RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2375
Homo_sapiens      RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2372
Callithrix_jacchus RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2420
Macaca_mulatta    RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2348
Canis_lupus_familiaris RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2476
Equus_caballus    RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2351
Bos_taurus        RVDENRSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2378
Latimeria_chalumnae KVDENRSEFLLHEGRLLDISISSVLNSFVASVICDVLFOIGQL 2372
Rhinatrema_bivittatum KVEENHSEFLLHEGRLLDISISAVLNSLVASVICDVLFOIGQL 2189
Xenopus_tropicalis KVEENQSEFLLQEGRLLDISISAVLNTVVASVICDVLFOIGQL 2413
.....2590.....2600.....2610.....2620....

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