

File: /media/morpheus/disk1/fst/pep_msa/KAT061819
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	..*..*.*. :*****:*****:****	
Pavo_muticus	ESKGAPKYS SGFPASLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Pavo_cristatus	ESKGAPKYS SGFPASLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Gallus_gallus	ESKGAPKYS SGFPASLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Chelonia_mydas	DSKGTPKYS AAFPASLPPVSLLPHEKDQPRADPIPICSFCLGTRESNREKKPEELLSCAD	239
Bos_taurus	DGKGAPKYP SAFPSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Equus_caballus	DGKGAPKYP SAFPSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Canis_lupus_familiaris	DGKGAPKYP SAFPSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Homo_sapiens	DGKGAPQYP SAFPSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Pan_troglodytes	DGKGAPQYP SAFPSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Macaca_mulatta	DGKGAPQYP SAFPSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Callithrix_jacchus	DGKGAPQYP SAFPSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
Mus_musculus	DGKGAPQYP SAFPSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	240
Rattus_norvegicus	DGRGAPQYP SAFPSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELVSCAD	240
Rhinatrema_bivittatum	EGKGASKYS SASVSSLPPVSLLPHEKDQPRADPIPICSFCLGTKE SNREKKPEELLSCAD	239
190.....200.....210.....220.....230.....240	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRIQGNADNMLFCD	SDRGFHM	EC	299
Pavo_cristatus	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRIQGNADNMLFCD	SDRGFHM	EC	299
Gallus_gallus	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRIQGNADNMLFCD	SDRGFHM	EC	299
Chelonia_mydas	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRIQGNADNMLFCD	SDRGFHM	EC	299
Bos_taurus	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRIQGNADNMLFCD	SDRGFHM	EC	299
Equus_caballus	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRIQGNADNMLFCD	SDRGFHM	EC	299
Canis_lupus_familiaris	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRIQGNADNMLFCD	SDRGFHM	EC	299
Homo_sapiens	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRVQGNADNMLFCD	SDRGFHM	EC	299
Pan_troglodytes	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRVQGNADNMLFCD	SDRGFHM	EC	299
Macaca_mulatta	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRVQGNADNMLFCD	SDRGFHM	EC	299
Callithrix_jacchus	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRVQGNADNMLFCD	SDRGFHM	EC	299
Mus_musculus	CGSSGHPSCLKFCPELTANVKALRWQ	CIECKTCSACRVQGNADNMLFCD	SDRGFHM	EC	300
Rattus_norvegicus	CGSSGHPSCLKFCPELTANVKALRWQ	CIECKTCSACRVQGNADNMLFCD	SDRGFHM	EC	300
Rhinatrema_bivittatum	CGSSGHPSCLKFCPELTSTNVKALRWQ	CIECKTCSACRIQGNADNMLFCD	SDRGFHM	EC	299

.....250.....260.....270.....280.....290.....300

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Pavo_muticus	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IRRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Pavo_cristatus	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IRRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Gallus_gallus	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IRRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Chelonia_mydas	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IRRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Bos_taurus	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Equus_caballus	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Canis_lupus_familiaris	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Homo_sapiens	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Pan_troglodytes	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Macaca_mulatta	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Callithrix_jacchus	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	359
Mus_musculus	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	360
Rattus_norvegicus	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	360
Rhinatrema_bivittatum	CDPPLSRMPKGMWICQVCRPKKKGRKLLHEKAAQ	IKRRYAKPIGRPNKCLKQRLSV	TS	SD	359

.....310.....320.....330.....340.....350.....360

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Pavo_muticus	EGSVNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLPVTDPTRPGATT	-KITTTST	418
Pavo_cristatus	EGSVNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLPVTDPTRPGATT	-KITTTST	418
Gallus_gallus	EGSVNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLPVTDPTRPGATT	-KITTTST	418
Chelonia_mydas	EGSMNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLPVTDPTRPGATT	-KITTTST	418
Bos_taurus	EGSMNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLAVTDPTRPGATT	-KITTTST	418
Equus_caballus	EGSMNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLAVTDPTRPGATT	-KITTTST	418
Canis_lupus_familiaris	EGSMNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLAVTDPTRPGATT	-KITTTST	418
Homo_sapiens	EGSMNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLAVTDPTRPGATT	-KITTTST	418
Pan_troglodytes	EGSMNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLAVTDPTRPGATT	-KITTTST	418
Macaca_mulatta	EGSMNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLAVTDPTRPGATT	-KITTTST	418
Callithrix_jacchus	EGSMNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLAVTDPTRPGATT	-KITTTST	418
Mus_musculus	EGSMSAFTGRGSP	-----	373
Rattus_norvegicus	EGSVNAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLAVTDPTRPGATT	-KITTTST	419
Rhinatrema_bivittatum	DGMSAFTGRGSPGRGQKTKVCTTPSSGHAASVKDSSSRLAVDPDPWP	GATT-KITTTST	419

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

Pavo_muticus	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SLV	478
Pavo_cristatus	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SLV	478
Gallus_gallus	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SLV	478
Chelonia_mydas	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SHV	478
Bos_taurus	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SHV	478
Equus_caballus	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SHV	478
Canis_lupus_familiaris	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SHV	478
Homo_sapiens	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SHV	478
Pan_troglodytes	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SHV	478
Macaca_mulatta	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SHV	478
Callithrix_jacchus	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SHV	478
Mus_musculus	-----	-----	-----	373
Rattus_norvegicus	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSKHYRPRKKVSQKQSC	TS	SHM	479
Rhinatrema_bivittatum	YISASTLKVNNKTKGLIDGLTKFFTPSPDGRRSRGEIIDFSNHYRPRKKLSQKQSC	TS	SHL	479

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

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Pavo_muticus	LATGTTQKLKPPPPSSLLPPTPI	ISGQSPSSQKSSTSTSSNSPQSSSSQSSAPSFSSLPNS	538
Pavo_cristatus	LATGTTQKLKPPPPSSLLPPTPI	ISGQSPSSQKSSTSTSSNSPQSSSSQSSAPSFSSLPNS	538
Gallus_gallus	LATGTTQKLKPPPPSSLLPPTPI	ISDQSPSSQKSSTSTSSNSPQSSSSQSSAPSFRLPNS	538
Chelonia_mydas	LATGTTQKLKPPPPSSLLPPTPI	ISGQSPSSQKSCTSTSSNSPQSSSSQSSAPSFSSLPNS	538
Bos_taurus	LAPGTTQKLKPPPLSSLPPTPI	ISGQSPSSQKSSTSVSTSPQSSSSQSSVPSFSSLTNS	538
Equus_caballus	LATGTTQKLKPPPPSSLLPPTPI	ISGQSPSSQKSSTSTSSNSPQSSSSQSSVPSFSSLTNS	538
Canis_lupus_familiaris	LATGTTQKLKPPPPSSLPPTPI	ISGQSPSSQKSSTSTSSNSPQSSSSQSSVPSFSSLTNS	538
Homo_sapiens	LATGTTQKLKPPPPSSLPPTPI	ISGQSPSSQKSSTATSSPSPQSSSSQCSVPSLSSLTNS	538
Pan_troglodytes	LATGTTQKLKPPPPSSLPPTPI	ISGQSPSSQKSSTATSSPSPQSSSSQCSVPSLSSLTNS	538
Macaca_mulatta	LATGTTQKLKPPPPSSLPPTPI	ISGQSPSSQKSSTATSSPSPQSSSSQCSVPSLSSLTNS	538
Callithrix_jacchus	LATGTTQKLKPPPPSSLPPTPI	ISGQSPSSQKSSTATSSPSPQSSSSQCSVPSLSSLTNS	538
Mus_musculus	-----	-----	373
Rattus_norvegicus	LATGTTQKLKPPPSALPPAPIS	ISGQSPSSQKSSTSTSSAPTQSSSSRSSSEPSFSSLINSS	539
Rhinatrema_bivittatum	LATGTTQKLNPLPSSLSTPTTL	SGQSPSSQKSSTSTSSNSPQSSSSQSSAPSFSSLPNS	539
490.....500.....510.....520.....530.....540		

Pavo_muticus	QLKGLFDGLSHIYATQEQSRKKG	YRSYAPHKRMHKEPSTSKSSSHFYRRKEVRNRFI	598
Pavo_cristatus	QLKGLFDGLSHIYATQEQSRKKG	YRSYAPHKRMHKEPSTSKSSSHFYRRKEVRNRFI	598
Gallus_gallus	QLKGLFDGLSHIYATQEQSRKKG	CPSYAPPKSMRRKPELSTSKNSSHFYRRKEVRNRFI	598
Chelonia_mydas	QLKGLFDGLSHIYTTQEQSRKKG	GHPSYAPPKRMRRKPELSTSKSNTHFYGKKEIRSRFI	598
Bos_taurus	QLKALFDGLSHIYTTQEQSRQK	GHPSYAPPKRMRRKTEFPLTAKSKAHFFGKRDVRSRFI	598
Equus_caballus	QLKALFDGLSHIYTTQEQSRKKG	GHPSYAPPKRMRRKTELSTAKSKAHFFGKRDVRSRFI	598
Canis_lupus_familiaris	QLKALFDGLSHIYTTQEQSRKKG	GHPSYAPPKRMRRKTELSTAKSRAHFFGKRDVRSRFI	598
Homo_sapiens	QLKALFDGLSHIYTTQEQSRKKG	GHPSYAPPKRMRRKTELSTAKSKAHFFGKRDVRSRFI	598
Pan_troglodytes	QLKALFDGLSHIYTTQEQSRKKG	GHPSYAPPKRMRRKTELSTAKSKAHFFGKRDVRSRFI	598
Macaca_mulatta	QLKALFDGLSHIYTTQEQSRKKG	GHPSYAPPKRMRRKTELSTAKSKAHFFGKRDVRSRFI	598
Callithrix_jacchus	QLKALFDGLSHIYTTQEQSRKKG	GHPSYAPPKRMRRKTELSTAKSKAHFFGKRDVRSRFI	598
Mus_musculus	-----	-----	373
Rattus_norvegicus	QLKALFDGLSHIYTTQEQSRKKG	GHPSYAPPKRMRRKTEFSTAKAKACFFGKRDVRSRFI	599
Rhinatrema_bivittatum	QLKGLFDGLSHIYATQEQSRKKG	GHPSYAPPKRMRRKPELS-TSKNAHFFGKKDIRNRFI	598
550.....560.....570.....580.....590.....600		

Pavo_muticus	PHACPSGLGLSRGLAFKAAAH	KRRTTLLKKHRLGRLKYKVT	POMGTPSTGKGS	LADGRI	658
Pavo_cristatus	PHACPSGLGLSRGLAFKAAAH	KRRTTLLKKHRLGRLKYKVT	POMGTPSTGKGS	LADGRI	658
Gallus_gallus	PRACPSGWGLSRGLAFKAAH	KRRTTLLKKHRLGRLKYKVT	POMGTPSTGKGS	LADGRI	658
Chelonia_mydas	SHSSTSGWVSRGRAFKAAH	FKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGS	LADGRI	658
Bos_taurus	SHSSSSSWGMARGRIFKAAH	FKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGS	SLTDGRI	658
Equus_caballus	SHSSSSSWGMARGRIFKAAH	FKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGS	SLTDGRI	658
Canis_lupus_familiaris	AHSSSSSWGMARGRIFKAAH	FKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGS	SLTDGRI	658
Homo_sapiens	SHSSSSSWGMARGSIFKAAH	FKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGS	SLTDGRI	658
Pan_troglodytes	SHSSSSSWGMARGSIFKAAH	FKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGS	SLTDGRI	658
Macaca_mulatta	SHSSSSSWGMARGRIFKAAH	FKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGS	SLTDGRI	658
Callithrix_jacchus	SHSSSSSWGMARGCIFKAAH	FKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGS	SLTDGRI	658
Mus_musculus	-----	-----	-----	-----	373
Rattus_norvegicus	SHSSCS-WG	MTRGHIFKAAHFKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGS	LADGRI	658
Rhinatrema_bivittatum	SHSSTSGW	AMCRGRAFKAAHFKRRTTFLKKHRLGRLKYKVT	POMGTPSPGKGN	LADGRI	658
610.....620.....630.....640.....650.....660				

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Pavo_muticus	KRDQDDDEIKLSIKQENTD	VYLVGSKDVTQEDLDVFKQARELSLEKIGCKNTGETSGR	718
Pavo_cristatus	KRDQDDDEIKLSIKQENTD	VYLVGSKDVTQEDLDVFKQARELSLEKIGCKNTGETSGR	718
Gallus_gallus	KPDQDDDEIKLSIKQENTD	VYLVGSKDVTQEDLDVFKQARELSLEKIGCKNTGETSGR	718
Chelonia_mydas	KPDQDDDEIKLSIKQENTD	VYLVGSKDVTQEDLDVFKQARELSLEKIGCKNTGETSGR	718
Bos_taurus	KPDQDDDEIKLSIKQESTD	INVGNKDTVTEEDLDVFKQARELSLEKIGCKNTGETSGR	718
Equus_caballus	KPDQDDDEIKLSIKQESTD	INVGNKDTVTEEDLDVFKQARELSLEKIGCKNTGETSGR	718
Canis_lupus_familiaris	KPDQDDDEIKLSIKQESTD	INVGNKDTVTEEDLDVFKQARELSLEKIGCKNTGETSGR	718
Homo_sapiens	KPDQDDDEIKINIKQESAD	VNVGNKDVVTEEDLDVFKQARELSLEKIGCKNTGETSGR	718
Pan_troglodytes	KPDQDDDEIKINIKQESAD	VNVGNKDVVTEEDLDVFKQARELSLEKIGCKNTGETSGR	718
Macaca_mulatta	KPDQDDDEIKINIKQESAD	VNVGNKDVVTEEDLDVFKQARELSLEKIGCKNTGETSGR	718
Callithrix_jacchus	KPDQDDDEIKINIKQESAD	VNVGNKDVVTEEDLDVFKQARELSLEKIGCKNTGETSGR	718
Mus_musculus	-----	-----	427
Rattus_norvegicus	NPDQDDDEIKLSIKQESMD	VNVGNKDLVTEEDLDVFKQARELSLEKIGCKNTGETSGR	718
Rhinatrema_bivittatum	KPDQDDDEIKINIKQESK	DASVVGSKESVTEEDLDVFKQARELSLEKIGCKNTGETSGR	718
670.....680.....690.....700.....710.....720		

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:***:*****
Pavo_muticus      YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Pavo_cristatus    YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Gallus_gallus     YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Chelonia_mydas    YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Bos_taurus        YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Equus_caballus    YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Canis_lupus_familiaris YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Homo_sapiens      YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Pan_troglodytes   YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Macaca_mulatta    YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Callithrix_jacchus YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Mus_musculus      YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 487
Rattus_norvegicus YPSVIEFGKYEIQTWYSSPYPOEYARLPKLYLCEFLKYMKSKNILLRHSKKCGWFHPPA 778
Rhinatrema_bivittatum FPSIIIEFGKYEIQTWYSSPYPOEYARLLKLYLCEFLKYMKSKNILQRHLKKCGWFHPPA 778
.....730.....740.....750.....760.....770.....780

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****:*****
Pavo_muticus      NEIYRRNDLSVFEV-----DGNVSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Pavo_cristatus    NEIYRRNDLSVFEV-----DGNVSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Gallus_gallus     NEIYRRNDLSVFEV-----DGNVSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Chelonia_mydas    NEIYRRNDLSVFEVFLKDTVDGNVSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 838
Bos_taurus        NEIYRRKDLVFEV-----DGNMSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Equus_caballus    NEIYRRKDLVFEV-----DGNMSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Canis_lupus_familiaris NEIYRRKDLVFEV-----DGNMSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Homo_sapiens      NEIYRRKDLVFEV-----DGNMSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Pan_troglodytes   NEIYRRKDLVFEV-----DGNMSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Macaca_mulatta    NEIYRRKDLVFEV-----DGNMSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Callithrix_jacchus NEIYRRKDLVFEV-----DGNMSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Mus_musculus      NEIYRRKDLVFEV-----DGNMSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 541
Rattus_norvegicus NEIYRRKDLVFEV-----DGNMSKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
Rhinatrema_bivittatum NEIYRRKDLVFEV-----DGNISKIYCNLCLLAKFLDHTLYYDVEPFLFYVLTKN 832
.....790.....800.....810.....820.....830.....840

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Pavo_muticus      DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Pavo_cristatus    DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Gallus_gallus     DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Chelonia_mydas    DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 898
Bos_taurus        DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Equus_caballus    DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Canis_lupus_familiaris DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Homo_sapiens      DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Pan_troglodytes   DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Macaca_mulatta    DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Callithrix_jacchus DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Mus_musculus      DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 601
Rattus_norvegicus DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
Rhinatrema_bivittatum DEKGCHLVGYFSKEKLCQOKYNVSCIMIMPQYQROGFGFRFLIDFSYLLSRREGQAGSPEK 892
.....850.....860.....870.....880.....890.....900

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Pavo_muticus      PLSDLGRLSYLAYWKSIVILEYLNCHHEKQISIKGMSRATGMCPHDIATTLQOHSMDKRE 952
Pavo_cristatus    PLSDLGRLSYLAYWKSIVILEYLNCHHEKQISIKGMSRATGMCPHDIATTLQOHSMDKRE 952
Gallus_gallus     PLSDLGRLSYLAYWKSIVILEYLNCHHEKQISIKGMSRATGMCPHDIATTLQOHSMDKRE 952
Chelonia_mydas    PLSDLGRLSYLAYWKSIVILEYLYCHHEKHISIKGMSRATGMCPHDIATTLQOHSMDKRE 958
Bos_taurus        PLSDLGRLSYLAYWKSIVILEYLYHHHERHISIKAISRATGMCPHDIATTLQOHLHMDKRD 952
Equus_caballus    PLSDLGRLSYLAYWKSIVILEYLYHHHERHISIKAISRATGMCPHDIATTLQOHLHMDKRD 952
Canis_lupus_familiaris PLSDLGRLSYLAYWKSIVILEYLYHHHERHISIKAISRATGMCPHDIATTLQOHLHMDKRD 952
Homo_sapiens      PLSDLGRLSYLAYWKSIVILEYLYHHHERHISIKAISRATGMCPHDIATTLQOHLHMDKRD 952
Pan_troglodytes   PLSDLGRLSYLAYWKSIVILEYLYHHHERHISIKAISRATGMCPHDIATTLQOHLHMDKRD 952
Macaca_mulatta    PLSDLGRLSYLAYWKSIVILEYLYHHHERHISIKAISRATGMCPHDIATTLQOHLHMDKRD 952
Callithrix_jacchus PLSDLGRLSYLAYWKSIVILEYLYHHHERHISIKAISRATGMCPHDIATTLQOHLHMDKRD 952
Mus_musculus      PLSDLGRLSYLAYWKSIVILEYLYRHHERHISIKAISRATGMCPHDIATTLQOHLHMDKRD 661
Rattus_norvegicus PLSDLGRLSYLAYWKSIVILEYLYRHHERHISIKAISRATGMCPHDIATTLQOHLHMDKRD 952
Rhinatrema_bivittatum PLSDLGRLSYLAYWKSIVILEYLSGHHEKHISIKGISRATGMCPHDIATTLQOHSMDKRE 952
.....910.....920.....930.....940.....950.....960

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KAT64.msa Tue Feb 1 12:26:33 2022

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	..**::***** ..**::*** .* **::**::*****:~***..*****::**	
Pavo_muticus	DRFVIIRREKLISSHMEKLLKANPRINEVDPESLRWTPLLVSNAAVSEEEEREAEKEAERLM	1012
Pavo_cristatus	DRFVIIRREKLISSHMEKLLKANPRINEVDPESLRWTPLLVSNAAVSEEEEREAEKEAERLM	1012
Gallus_gallus	DRFVIIRREKLISSHMEKLLKANPRINEVDPESLRWTPLLVSNAAVSEEEEREAEKEAERLM	1012
Chelonia_mydas	DRFVIIRREKLISSHMEKLLKANPRVNEVDPESLRWTPLLVSNAAVSEEEEREAEKEAERLM	1018
Bos_taurus	GRFVIIRREKLILGHMEKLLKTCsRTNELDPESLRWTPILISNAAVSEEEEREAEKEAERLM	1012
Equus_caballus	GRFVIIRREKLILGHMEKLLKTCsRTNELDPESLRWTPILISNAAVSEEEEREAEKEAERLM	1012
Canis_lupus_familiaris	GRFVIIRREKLILGHMEKLLKTCsRTNELDPESLRWTPILISNAAVSEEEEREAEKEAERLM	1012
Homo_sapiens	GRFVIIRREKLILSHMEKLLKTCsRANELDPDSLrWTPILISNAAVSEEEEREAEKEAERLM	1012
Pan_troglodytes	GRFVIIRREKLILSHMEKLLKTCsRANELDPDSLrWTPILISNAAVSEEEEREAEKEAERLM	1012
Macaca_mulatta	GRFVIIRREKLILSHMEKLLKTCsRANELDPDSLrWTPILISNAAVSEEEEREAEKEAERLM	1012
Callithrix_jacchus	GRFVIIRREKLILSHMEKLLKTCsRANELDPDSLrWTPILISNAAVSEEEEREAEKEAERLM	1012
Mus_musculus	GRFVIIRREKLILGHMEKLLKNCsRPNELDPESLRWTPMLISNAVVS	EEEREAEKEAERLM 721
Rattus_norvegicus	GRFVIIRREKLILGHMEKLLKNCsRPNEVDPESLRWTPILISNAVVS	EEEREAEKEAERLM 1012
Rhinatrema_bivittatum	DKFVVIRREKLILSHMDKLLKACPRINEVDPEGLRWTPVLVSNATFS	EEEREAEKEAEHLM 1012
970.....980.....990.....1000.....1010.....1020	

	.**: :: * .****.*****:*** .*.**.* .****:::	
Pavo_muticus	EQASCWEKEEQEIFSTRSNSRQSPAKVQSKNKYLRSPEENVAVVGERGOSTEQSKESSEED	1072
Pavo_cristatus	EQASCWEKEEQEIFSTRSNSRQSPAKVQSKNKYLRSPEENVAVVGERGOSTEQSKESSEED	1072
Gallus_gallus	EQASCWEKEEQEIFSTRSNSRQSPAKVQSKNKYLRSPEENVAVVGERGOSTEQSKESSEED	1072
Chelonia_mydas	EQASCWEKEEQDIFSTRINSRQSPAKVQSKNKYLRSPEENVAVVGERGOSTEQSKESSEDD	1078
Bos_taurus	EQASCWEKEEQEILSSRANSRQSPAKVQSKNKYLHSPESRPVAGERGOLMELSKESSEEE	1072
Equus_caballus	EQASCWEKEEQEILSSRANSRQSPAKVQSKNKYLHSPESRPVAGERGOLMELSKESSEEE	1072
Canis_lupus_familiaris	EQASCWEKEEQEILSSRANSRQSPAKVQSKNKYLHSPESRPVAGERGOLMELSKESSEEE	1072
Homo_sapiens	EQASCWEKEEQEILSTRANSRQSPAKVQSKNKYLHSPESRPVTGERGOLLELSKESSEEE	1072
Pan_troglodytes	EQASCWEKEEQEILSTRANSRQSPAKVQSKNKYLHSPESRPVTGERGOLLELSKESSEEE	1072
Macaca_mulatta	EQASCWEKEEQEVLSTRANSRQSPAKVQSKNKYLHSPESRPVTGERGOLLELSKESSEEE	1072
Callithrix_jacchus	EQASCWEKEEQEILSSRANSRQSPAKVQSKNKYLHSPESRPVTGERGOLLELSKESSEEE	1072
Mus_musculus	EQASCWEKEEQEILSSRVSSRQSAKVQSKNKYLHSPERRPVAGERGOLLELSKESSEEE	781
Rattus_norvegicus	EQASCWEKEEQENLSSRVTSRQSAKVQSKNKYLHSPERRPVAGERGOLLELSKESSEEE	1072
Rhinatrema_bivittatum	EQANCWEKEEQELLILRVNSRQSPAKVQSKNKYLHSPERPVGEEQSADQDKESSEEE	1072
1030.....1040.....1050.....1060.....1070.....1080	

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Pavo_muticus	GGDE	-----		SQSSPPRLT	1086
Pavo_cristatus	GGDE	-----		SQSSPPRLT	1086
Gallus_gallus	GGDE	-----		SQSSPPRLT	1086
Chelonia_mydas	EGDG	-----		NHQSSPRLT	1092
Bos_taurus	EEEE	-----		NIQSSPPRLT	1109
Equus_caballus	EEEE	-----		NIQSSPPRLT	1110
Canis_lupus_familiaris	EEEE	-----		NIQSSPPRLT	1126
Homo_sapiens	EEEE	-----		NIQSSPPRLT	1114
Pan_troglodytes	EEEE	-----		NIQSSPPRLT	1113
Macaca_mulatta	EEEEEEEE	-----		NIQSSPPRLT	1120
Callithrix_jacchus	EEEE	-----		NIQSSPPRLT	1116
Mus_musculus	EEEE	-----		SIQTSPPRLT	809
Rattus_norvegicus	EEEE	-----		SIPTSPPRLT	1099
Rhinatrema_bivittatum	ENED	-----		GCHSSPPRLS	1087

	::**::***** ***** :*****:***	
Pavo_muticus	KPQSLAMKRKRPFLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	1146
Pavo_cristatus	KPQSLAMKRKRPFLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	1146
Gallus_gallus	KPQSLAMKRKRPFLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	1146
Chelonia_mydas	KPQSLAIKRKRPFILKKKGRGRKRRRINSSVTTETISETTEVLNEPFDHSDDEERPMPQLEP	1152
Bos_taurus	KPQSAIKRKRPFVLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	1169
Equus_caballus	KPQSAIKRKRPFVLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	1170
Canis_lupus_familiaris	KPQSAIKRKRPFVLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPHLEP	1186
Homo_sapiens	KPQSAIKRKRPFVLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	1174
Pan_troglodytes	KPQSAIKRKRPFVLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	1173
Macaca_mulatta	KPQSAIKRKRPFVLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	1180
Callithrix_jacchus	KPQSAIKRKRPFVLKKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	1176
Mus_musculus	KPQSVSIKRKRPFVVKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPQLEP	869
Rattus_norvegicus	KPQSVSIKRKRPFVVKKGRGRKRRRINSSVTTETISETTEVLNEPFDNSDEERPMPRLEP	1159
Rhinatrema_bivittatum	KPQSLALKRKRPFLKKKGRGRKRRINSSVTTETISETTEVLNEPFANSDEERPMPQLEP	1147
1150.....1160.....1170.....1180.....1190.....1200	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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***      *:      *:      *:      *:      *:      *:      *:      *:      *:      *:
Pavo_muticus      TCCEMDGEDDDLKPVIRKAFEYQSGQOQKEKEEKDIHCLRSDDHCTDNT-EDVAV 1205
Pavo_cristatus    TCCEMDGEDDDLKPVIRKAFEYQSGQOQKEKEEKDIHCLRSDDHCTDNT-EDVAV 1205
Gallus_gallus     TCCEMDGEDDDLKPVIRKAFEYQSVQOQKEKEEKDVHCLRSDDHCTDNT-EDVAV 1205
Chelonia_mydas    TCEIDGEDDDLKPVIRKVFQYQPGKRONCEEEED--KGEKDNRCYKNDVQCRNNT-EDVAV 1209
Bos_taurus        TCEIEVEEDGRKPVLRKAFQHQP GKRRQTEEEEE----GKDNHCFKNADPCRNMMDDGANN 1225
Equus_caballus    TCEIEVEEDGKPPRLKAFQHQP GKRRQTEEEEE----GKDNHCFKNADPCRNMMDDGANN 1226
Canis_lupus_familiaris TCEIEVEEDGGKPVLRKTFQHQP GKRRQTEEEEE----EKDNHCFKNADPCRNMMDDDTDT 1242
Homo_sapiens      TCEIEVEEDGRKPVLRKAFQHQP GKRRQTEEEEE----GKDNHCFKNADPCRNMMDDSSN 1230
Pan_troglodytes   TCEIEVEEDGRKPVLRKAFQHQP GKRRQTEEEEE----GKDNHCFKNADPCRNMMDDSSN 1229
Macaca_mulatta    TCEIEVEEDGRKPVLRKAFQHQP GKRRQTEEEEE----GKDNHCFKNADPCRNMMDDSSN 1236
Callithrix_jacchus TCEIEVEEDGRKPVLRKAFQHQP GKRRQTEEEEE----GKDNHCFKNADPCRNMMDDSSN 1232
Mus_musculus      TCEIPVEEGGRKPVLRKAFQHQP GKRRQTEEEEE----GEDNHFFKTAALCRKDVDDDAEH 925
Rattus_norvegicus TCEIQVEEAGRKPVLRKAFQHQP GKRRQTEEGD----GKDNHFFKTAALCRNDVDDDAEH 1215
Rhinatrema_bivittatum TCETDREDDQLRPVIRNVFQFHGRPRHIEEEE----KDNRSRHRDKDPYTNDI--DASV 1200
.....1210.....1220.....1230.....1240.....1250.....1260

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*:      *:      *:      *:      *:      *:      *:      *:      *:      *:
Pavo_muticus      LEESTKDNLEPLKSKQGWPKGVKRGPSKWRQNKERKPGFKLNLYTPPETPMEPDYQMLVE 1265
Pavo_cristatus    LEESTKDNLEPLKSKQGWPKGVKRGPSKWRQNKERKPGFKLNLYTPPETPMEPDYQMLVE 1265
Gallus_gallus     LEESTKDNLEPLKSKQGWPKGVKRGPSKWRQNKERKPGFKLNLYTPPETPMEPDYQMLVE 1265
Chelonia_mydas    LEESTKDNLEPLRCKQGWPKGVKRGPSKWRQNKERKPGFKLNLYTPPETPMEPDYQVIE 1269
Bos_taurus        LKEASRDNPEPLKCKQ-WPKGTKRGLSKWRPNKERKTGFKLNLYTPPETPMEPDQVITVE 1284
Equus_caballus    LKEGSRDNPEPLKCKQVWPVKGTKRGLSKWRPNKERKTGFKLNLYTPPETPMEPDQVITVE 1286
Canis_lupus_familiaris LKEGSRDNPEPLKCKQVWPVKGTKRGLSKWRPNKERKTGFKLNLYTPPETPMEPDQVITVE 1302
Homo_sapiens      LKEGSKDNPEPLKCKQVWPVKGTKRGLSKWRPNKERKTGFKLNLYTPPETPMEPDQVITVE 1290
Pan_troglodytes   LKEGSKDNPEPLKCKQVWPVKGTKRGLSKWRPNKERKTGFKLNLYTPPETPMEPDQVITVE 1289
Macaca_mulatta    LKEGSKDNPELLKCKQAWPKGTKRGLSKWRPNKERKTGFKLNLYTPPETPLEPDQVITVE 1296
Callithrix_jacchus LKEGSKDNLEPLKCKQVWPVKGTKRGLSKWRPNKERKTGFKLNLYTPPETPMEPDQVITVE 1292
Mus_musculus      LKEGSKDNPEPLKCRQVWPVKGAKRGLSKWKQSKERKTGFKLNLYTPPETPMEPDQVITIE 985
Rattus_norvegicus LEEGSRDSAEPLKCRQVWPVKAAGRGLSKWRQSKERRPGLKLNLCCTPPETPMEPEGLTKVV 1275
Rhinatrema_bivittatum LKEDMKHNPEPLRCKQGWPKGVKRGPSKWRQSKERKTGFKLNLYTPPETPMEPDYQVMAE 1260
.....1270.....1280.....1290.....1300.....1310.....1320

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*      *      *:      *:      *:      *:      *:      *:      *:      *:
Pavo_muticus      -EQKEVAEDKPCFPVPAVTEEEIKEPVEVLPPPDDVEKIEPEPLHPPGEPYEK-QENDAV 1323
Pavo_cristatus    -EQKEVAEDKPCFPVPAVTEEEIKEPVEVLPPPDDVEKIEPEPLHPPGEPYEK-QENDAV 1323
Gallus_gallus     -EQKEVAEDKPCFPVPAVTEEEIKEPVEVLPPPDDVEKIEPEPLHPPGEPYEK-QEDDTV 1323
Chelonia_mydas    -EQKQVSEDKPCQVPAIAEEIKEPIKNLQP-QDEVKELEPELLNPPSEHFEI-IENDLM 1326
Bos_taurus        -EQKETPADKSSPSSTRIEEGVKEAVEPLLPQDENGREETCAPVSPNKSPEGK-PEDDVI 1342
Equus_caballus    -EQKETPEDKTSPTSTRIEEEVEEAVEPLLPDENRREETCAPISPNKSPGEK-PEDDLI 1344
Canis_lupus_familiaris -EQKETPEDKTSPTSTRIEEEVKEAMEPLLPDENRRDETCAPISPNKSPEGK-TEDDAI 1360
Homo_sapiens      -EQKETSEGKTSPTSPIRIEEEVKETGEALLPOENRREETCAPVSPNTSPGEK-PEDDLI 1348
Pan_troglodytes   -EQKETSEGKTSPTSPIRIEEEVKETGEALLPOENRREETCAPVSPNTSPGEK-PEDDLI 1347
Macaca_mulatta    -EQKETSEGKTSPTPIRIEEEVKETGEALLPPEENRREETCAPVSPNTSPGEK-PEDDLI 1354
Callithrix_jacchus -EPKETSEGKTSPTPIRIEEEVKETGEALLPPEENRREETCAPVSPNTSPGEK-PED-LI 1349
Mus_musculus      -EQKELSEDKGSP--VGMRERVTETVDALLPOEGSRREETGIPVSPHKSPPGKVDDEEDLI 1042
Rattus_norvegicus KEQKGISEDKGSP--VGEDREVTETEEALLPDGNGREETGTPVSPHKSPPGKADEEDLI 1333
Rhinatrema_bivittatum -EQKEIVEDEQCLSPVTN-EIMKEPVKLIQPOEIDVESLPSEPLSPQNISLEI-TDNEIL 1317
.....1330.....1340.....1350.....1360.....1370.....1380

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:      *:      *:      *:      *:      *:      *:      *:      *:
Pavo_muticus      KAGEEE-----NNVEDSEINSKDPEKNKPEEVFL 1352
Pavo_cristatus    KAGEEE-----NNVEDSEINSKDPEKNKPEEVFL 1352
Gallus_gallus     KAGEEE-----RNVEDSEINSKDPEKDKPEEVFL 1352
Chelonia_mydas    KVEEEE-----RNVEEDVVSAKNDKDPQKEMCE 1355
Bos_taurus        KPEEEEEEEEE-----EEEEEE-----GNVEKDPGSAKSQEKKEEP-EVCM 1379
Equus_caballus    KPEEEEEEEEE-----EEEEEE-----GNVEKDPGSAKSQEKKEEP-EVCM 1388
Canis_lupus_familiaris KPEEEEEEEEEDEEEEEEEEEEEEEEEEE-----ENVAKDPGSAKSQEKKEEP-EVCL 1411
Homo_sapiens      KPEEEEEEEEE-----EEEEEE-----EEEEEGGNVEKDPGSAKSQEKKEEP-EIST 1397
Pan_troglodytes   KPEEEEEEEEE-----EEEEEE-----EEEEEGGNVEKDPGSAKSQEKKEEP-EIST 1394
Macaca_mulatta    KPEEEEEEEEE-----EEEEEE-----EEEEEGGNVEKDPGSAKSQEKKEEP-EISP 1400
Callithrix_jacchus KPEEEEEEEEE-----EEEEEE-----GNVEKDPGDKSEEKKEEP-EIST 1390
Mus_musculus      RGEEEGEEEGEE-----EGEREEQEEEEE-----VTTEKDLGAKSKENPEP-EISM 1088
Rattus_norvegicus KGEEEEEE-----TTEKDPGSAKSQEKAEAE-EISM 1364
Rhinatrema_bivittatum KVEEKEE-----RNVERDNEGTKNQHKNQEQVYV 1347
.....1390.....1400.....1410.....1420.....1430.....1440

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	* . . * . * . . . : * . . : * * * * * . * * * * * . * * . . : : : . * : * * * * . * * . .	
Pavo_muticus	QKEESMHLDDRDEEEEDDEEPSHNEDHDADDEDDSHMGSAEVEKEDLPAAFAFKEMLETOQ	1412
Pavo_cristatus	QKEESMHLDDRDEEEEDDEEPSHNEDHDADDEDDSHMGSAEVEKEDLPAAFAFKEMLETOQ	1412
Gallus_gallus	QKEESMHLDDHEEEEDDEEPSHNEDHDADDEDDSHMGSAEVEKEDLPAAFAFKEMLETOQ	1412
Chelonia_mydas	QKDEPEHLDDHEEEEEEEEEEPSHNEDHDADDEDDSHMGSTEVEKEELPGAFAFKEVLENQE	1415
Bos_taurus	DKEDPVRLDDHEEEEEEEEEEPSHNEGHDADDEDDSHMESAEVEKEEHPREAFKEVLENQE	1439
Equus_caballus	DKEDSVRLDDHEEEEEEEEEEPSHNEGHDADDEDDSHMESAEAEKKEHPREAFKEVLENQE	1448
Canis_lupus_familiaris	GKEDSVALLDDHEEEEEEEEEEPSHNEGHDADDEDDSHMEGAQAEKEDRPREAFKEVLENQE	1471
Homo_sapiens	EKEDSARLDDHEEEEEEEEEEPSHNEDHDADDEDDSHMESAEVEKEELPRESFKEVLENQE	1457
Pan_troglodytes	EKEDSARLDDHEEEEEEEEEEPSHNEDHDADDEDDSHMESAEVEKEELPRESFKEVLENQE	1454
Macaca_mulatta	EKEDSACLDDHEEEEEEEEEEPSHNEDHDADDEDDSHMESAEVEKEELPRESFKEVLENQE	1460
Callithrix_jacchus	EKEDPVRLDDHEEEEEEEEEEPSHNEDHDADDEDDSHMESAEVEKEELPRETFKEVLENQE	1450
Mus_musculus	EKEDPVHLGDHEEDEDDEEEEPSHNEDHDADDEDDGHMBAANMERGDLPRETFKDALEGOE	1148
Rattus_norvegicus	EKEDAVHLDDHEEDEDDEEEEPSHNEDHDADDEDDGHMEATNVDRGDLPEAFKDALEGOE	1424
Rhinatrema_bivittatum	EKGDSHLLDDNEDDEEEEEEPSHNEDHDADDEDDSHMDSTEAEK-DLSETFK-VLENHE	1405
1450.....1460.....1470.....1480.....1490.....1500	

[illegible]

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Pavo_muticus	OKAGEELHSDFKGESNETMEIDSETVQAVQSLTQEASEQEDTFODCAETQEACRSLQNYA	1528
Pavo_cristatus	OKAGEELHSDFKGESNETMEIDSETVQAVQSLTQEASEQEDTFODCAETQEACRSLQNYA	1528
Gallus_gallus	OKAGEELHSDFKGESNETMEIDSETVQAVQSLTQEASEQEDTFODCAETQEACRSLQNYA	1528
Chelonia_mydas	QKESSEELNSDFKKEESTETMEIDSETVQAVQSLTQETSEQEDAFQDCSETQEACRSLQNYT	1530
Bos_taurus	QKNSEEVDSFEKEGNTATLEIDSETVQAVQSLTQENSEQDDTFODCAETQEACRSLQNYT	1557
Equus_caballus	QKNREEVDSFEKEGNTATMEIDSETVQAVQSLTQENSEQDDTFODCAETQEACRSLQNYT	1566
Canis_lupus_familiaris	QKSSEGVDSFEKERNITITVEIDSETVQAVQSLTQENSEQDDTFODCTETQEACRSLQNYT	1589
Homo_sapiens	QKNSKEVDTEFKEGNPATMEIDSETVQAVQSLTQESSEQDDTFODCAETQEACRSLQNYT	1576
Pan_troglodytes	QKNSKEVDTEFKEGNPATMEIDSETVQAVQSLTQESSEQDDTFODCAETQEACRSLQNYT	1573
Macaca_mulatta	QKNSKEVDTEFKEGNPATMEIDSETVQAVQSLTQESSEQDDTFODCAETQEACRSLQNYT	1579
Callithrix_jacchus	QKNSKEVDSEFKDGNATMEIDSETVQAVQSLTQESSEQDDTFODCAETQEACRSLQNYT	1569
Mus_musculus	QKNSDGVDAELEEGGPAAVEIDSETAQAVQSLTQENREHDDTFPDCAETQEACRSLQNYT	1266
Rattus_norvegicus	QEKSNAGDTCLKDGGTATVEIDSETVQAVQSLTQENREQDDTFODCAETQEACRSLQNYT	1542
Rhinatrema_bivittatum	QKDNEELNSFEKKEENTETMEIDSETVQAVQSLTQENGDDQEDAFQDCSETQEACRSLQNYT	1519
1570.....1580.....1590.....1600.....1610.....1620	

	HTDQSPQMT-TLDDCQQSDHSSPVSSVHSHPSQSVRSVNSPNVAPLENNYAQISPDQSAI	1587
Pavo_muticus	HTDQSPQMT-TLDDCQQSDHSSPVSSVHSHPSQSVRSVNSPNVAPLENNYAQISPDQSAI	1587
Pavo_cristatus	HTDQSPQMT-TLDDCQQSDHSSPVSSVHSHPSQSVRSVNSPNVAPLENNYAQISPDQSAI	1587
Gallus_gallus	HTDQSPQMT-TLDDCQQSDHSSPVSSVHSHPSQSVRSVNSPNVAPLENNYAQISPDQSAI	1587
Chelonia_mydas	HTDQSPQMT-TLDDCQQSDHSSPVSSVHSHPSQSVRSVNSPNVAPLENNYAQISPDQSAI	1589
Bos_taurus	HADQSPQISATLDDCQQSDHSSPVSSVHSHPGQSVRSVSSPSVPALENSYAQISPDQSAI	1617
Equus_caballus	HADQSPQIAATLDDCQQSDHSSPVSSVHSHPGQSVRSVNSPSVPALENSYAQISPDQSAI	1626
Canis_lupus_familiaris	HADQSPQIATLDDCQQSDHSSPVSSVHSHPSQSVRSVNSPSVPALENSYAQISPDQSAI	1649
Homo_sapiens	RADQSPQIATLDDCQQSDHSSPVSSVHSHPGQSVRSVNSPSVPALENSYAQISPDQSAI	1636
Pan_troglodytes	RADQSPQIATLDDCQQSDHSSPVSSVHSHPGQSVRSVNSPSVPALENSYAQISPDQSAI	1633
Macaca_mulatta	RADQSPQIATLDDCQQSDHSSPVSSVHSHPGQSVRSVNSPSVPALENSYAQISPDQSAI	1639
Callithrix_jacchus	RADQSPQIAATLDDCQQSDHSSPVSSVHSHPGQSVRSVNSPSVPALENSYAQISPDQSAI	1629
Mus_musculus	HTDQSPQIATLDECQQSDHSSPVSSVHSHPGQSVRSVNSPSVPALENSYAQISPDQTAI	1326
Rattus_norvegicus	HTDQSPQIATLDECQQSDHSSPVSSVHSHPGQSVRSVNSPSVPALENSYAQISPDQTAI	1602
Rhinatrema_bivittatum	HTDQSPQMT-PLDDCQQSEHS-PVSSVHSHPSQSVRSVSSPSVPPLLENSYAQISPDQNTI	1577

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Pavo_muticus	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1647
Pavo_cristatus	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1647
Gallus_gallus	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1647
Chelonia_mydas	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1649
Bos_taurus	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1677
Equus_caballus	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1686
Canis_lupus_familiaris	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1709
Homo_sapiens	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1696
Pan_troglodytes	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1693
Macaca_mulatta	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1699
Callithrix_jacchus	SVPSLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1689
Mus_musculus	TVPPLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1386
Rattus_norvegicus	TVPPLQNMETSPMMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1662
Rhinatrema_bivittatum	SVPSLQNLLETSPIMDVPSVSDHQQVVDGSGFSDLGSIESTTENYENPSSYDSTMGSSICG	1637
1690.....1700.....1710.....1720.....1730.....1740	

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Pavo_muticus	NNSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMMQQTNISSPPTCNVKSPQGCVV	1707
Pavo_cristatus	NNSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMMQQTNISSPPTCNVKSPQGCVV	1707
Gallus_gallus	NNSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMMQQTNISSPPTCNVKSPQGCVV	1707
Chelonia_mydas	NNSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMMQQTNISSPPTCNVKSPQGCVV	1709
Bos_taurus	NGSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMLQQTSSISSPPTCSVKSPQGCVV	1737
Equus_caballus	NGSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMLQQTSSISSPPTCNVKSPQGCVV	1746
Canis_lupus_familiaris	NGSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMLQQTSSISSPPTCSVKSPQGCVV	1769
Homo_sapiens	NGSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMLQQTSSISSPPTCSVKSPQGCVV	1756
Pan_troglodytes	NGSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMLQQTSSISSPPTCSVKSPQGCVV	1753
Macaca_mulatta	NGSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMLQQTSSISSPPTCSVKSPQGCVV	1759
Callithrix_jacchus	NGSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMLQQTSSISSPPTCSVKSPQGCVV	1749
Mus_musculus	NGSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMLQQTSSISSPPTCSVKSPQGCVV	1446
Rattus_norvegicus	NSSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMLQQTSSISSPPTCSVKSPQGCVV	1722
Rhinatrema_bivittatum	NNSSQNSCSYSLTSSNLTSQSSCAVTQQMSNINGS	CSMMQQTNISSPPTCNVKSPQGCIV	1696
1750.....1760.....1770.....1780.....1790.....1800		

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Pavo_muticus	ERPPSSNQOLSQC SMAANFTPPMOLSEIPEAGNANIGLYERMGOSEFGPGHYSPSATFS	1767
Pavo_cristatus	ERPPSSNQOLSQC SMAANFTPPMOLSEIPEAGNANIGLYERMGOSEFGPGHYSPSATFS	1767
Gallus_gallus	ERPPSSNQOLSQC SMAANFTPPMOLTEIPEAGNANIGLYERMGOSEFGPGHYSPSATFS	1767
Chelonia_mydas	ERPPSSNQOLSQC SMAANFTPPMOLTEIPETGNANIGLYERMGOSEFGAGHYSPSATFS	1769
Bos_taurus	ERPPSSSQQLAQC SMAANFTPPMOLAEIPETGNANIGLYERMGOSEFGAGHYSPSATFS	1797
Equus_caballus	ERPPSSSQQLAPC SMAANFTPPMOLAEIPETGNANIGLYERMGOSEFGAGHYSPSATFS	1806
Canis_lupus_familiaris	ERPPSSSQQLAQC SMAANFTPPMOLPEIPETGNANIGLYERMGOSEFGAGHYSPSATFS	1829
Homo_sapiens	ERPPSSSQQLAQC SMAANFTPPMOLAEIPETSNANIGLYERMGOSEFGAGHYSPSATFS	1816
Pan_troglodytes	ERPPSSSQQLAQC SMAANFTPPMOLAEIPETSNANIGLYERMGOSEFGAGHYSPSATFS	1813
Macaca_mulatta	ERPPSSSQQLAQC SMAANFTPPMOLAEIPETGNANIGLYERMGOSEFGAGHYSPSATFS	1819
Callithrix_jacchus	ERPPSSSQQLAQC SMAANFTPPMOLAEIPETGNANIGLYERMGOSEFGAGHYSPSATFS	1809
Mus_musculus	ERPPSSSQQLAQC SMAANFTPPMOLADIPETSNANIGLYERMGOSEFGAGHYSPSATFS	1506
Rattus_norvegicus	ERPPSSSQQLAQC SMAANFTPPMOLADIPETSNANIGLYERMGOSEFGAGHYSPSATFS	1782
Rhinatrema_bivittatum	ERPPSSNQOLSQC SMASNFTPPMOLSEMPETGNANIGLYDRLGONEFGAGHYSPSATFS	1756
1810.....1820.....1830.....1840.....1850.....1860	

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Pavo_muticus	LAKLQQLTNTLMDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHAVPGGPQAA	1827
Pavo_cristatus	LAKLQQLTNTLMDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHAVPGGPQAA	1827
Gallus_gallus	LAKLQQLTNTLMDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHAVPGGPQAA	1827
Chelonia_mydas	LAKLQQLTNTLMDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHTVPGGPQAA	1829
Bos_taurus	LAKLQQLTNTLIDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAA	1857
Equus_caballus	LAKLQQLTNTLIDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAA	1866
Canis_lupus_familiaris	LAKLQQLTNTLIDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAA	1889
Homo_sapiens	LAKLQQLTNTLIDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAA	1876
Pan_troglodytes	LAKLQQLTNTLIDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAA	1873
Macaca_mulatta	LAKLQQLTNTLIDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAA	1879
Callithrix_jacchus	LAKLQQLTNTLIDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAA	1869
Mus_musculus	LAKLQQLTNTLIDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAA	1566
Rattus_norvegicus	LAKLQQLTNTLIDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAA	1842
Rhinatrema_bivittatum	LAKLQQLTNTLMDHSLPYSHSAAVTSYANSASLSTPLSNTGLVQLSQSPHSVPGGPQAP	1816
1870.....1880.....1890.....1900.....1910.....1920	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	TMTPPPNLTTPPPMNLPPPLLQRNMTSSNIGISHTQRLQTMASKGHVSVRTKSTPLPP--	1885
Pavo_cristatus	TMTPPPNLTTPPPMNLPPPLLQRNMTSSNIGISHTQRLQTMASKGHVSVRTKSTPLPP--	1885
Gallus_gallus	TMTPPPNLTTPPPMNLPPPLLQRNMTSSNIGISHTQRLQTMASKGHVSVRTKSTPLPP--	1885
Chelonia_mydas	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHTQRLQTMASKGHVSVRTKSAPLPP--	1887
Bos_taurus	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHSQRQLQTQIASKGHVSMRTKSASLSP--	1915
Equus_caballus	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHSQRQLQTQIASKGHVSMRTKSASLSP--	1924
Canis_lupus_familiaris	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHSQRQLQTQIASKGHVSMRTKSASLSP--	1947
Homo_sapiens	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHSQRQLQTQIASKGHVSMRTKSASLSP--	1934
Pan_troglodytes	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHSQRQLQTQIASKGHVSMRTKSASLSP--	1931
Macaca_mulatta	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHSQRQLQTQIASKGHVSMRTKSASLSP--	1937
Callithrix_jacchus	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHSQRQLQTQIASKGHVSMRTKSASLSP--	1927
Mus_musculus	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHSQRQLQTQIASKGHVSMRTKAASLSP--	1624
Rattus_norvegicus	TMTPPPNLTTPPPMNLPPPLLQRNMAASNIGISHSQRQLQTQIASKGVPVSMRTKSASLSP--	1900
Rhinatrema_bivittatum	TMTPPPNLTTPPPMNLPPPLLQRNMAATNIGISHTQRLQTMASKGHVSMRTKSAPLPPAA	1876
1930.....1940.....1950.....1960.....1970.....1980	

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Pavo_muticus	AAAAHQPIYGRASQTVAMQGP-TRILTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1944
Pavo_cristatus	AAAAHQPIYGRASQTVAMQGP-TRILTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1944
Gallus_gallus	AAAAHQPIYGRASQTVAMQGP-TRILTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1944
Chelonia_mydas	AAAAHQSIYGRASQTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1946
Bos_taurus	AAATHQSQIYGRS-QTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1973
Equus_caballus	AAATHQSQIYGRS-QTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1982
Canis_lupus_familiaris	AAATHQSQIYGRS-QTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	2005
Homo_sapiens	AAATHQSQIYGRS-QTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1992
Pan_troglodytes	AAATHQSQIYGRS-QTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1989
Macaca_mulatta	AAATHQSQIYGRS-QTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1995
Callithrix_jacchus	AAATHQSQIYGRS-QTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1985
Mus_musculus	AAATHQSQIYGRS-QTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1682
Rattus_norvegicus	AAATHQSQIYGRS-QTVAMQGP-ARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1958
Rhinatrema_bivittatum	AAAAHQSIYGRASQTVAMQGPAARTLTMQGMNMSVNLMPAPAYNVNSVNMNMNTLNAM	1936
1990.....2000.....2010.....2020.....2030.....2040	

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Pavo_muticus	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTAPHSNMMYSPPG	2004
Pavo_cristatus	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTAPHSNMMYSPPG	2004
Gallus_gallus	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTAPHSNMMYSPPG	2004
Chelonia_mydas	NGYSMSQPMMSNGYHSNHGYMNQTAQYPMQMGMGMPQPYAQQPMQTTPHSGNMYYTPPG	2006
Bos_taurus	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTTPHSGNMYYTAPG	2033
Equus_caballus	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTTPHSGNMYYTAPG	2042
Canis_lupus_familiaris	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTTPHSGNMYYTAPG	2065
Homo_sapiens	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTTPHSGNMYYTAPG	2052
Pan_troglodytes	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTTPHSGNMYYTAPG	2049
Macaca_mulatta	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTTPHSGNMYYTAPG	2055
Callithrix_jacchus	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTTPHSGNMYYTAPG	2045
Mus_musculus	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTTPHANMMYYTAPG	1742
Rattus_norvegicus	NGYSMSQPMMSNGYHSNHGYMNQTPQYPMQMGMGMPQPYAQQPMQTTPHSGNMYYTAPG	2018
Rhinatrema_bivittatum	NGYRMSQPMMSNGYHGNHGYMNQTPQYPMQMGMGMPQPYAQQSMQTTPHSGNMYYTPPG	1996
2050.....2060.....2070.....2080.....2090.....2100	

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Pavo_muticus	HHGYMNTGMSKQSLNGSYMRR	2025
Pavo_cristatus	HHGYMNTGMSKQSLNGSYMRR	2025
Gallus_gallus	HHGYMNTGMSKQSLNGSYMRR	2025
Chelonia_mydas	HHGYMNTGMSKQSLNGSYMRR	2027
Bos_taurus	HHGYMNTGMSKQSLNGSYMRR	2054
Equus_caballus	HHGYMNTGMSKQSLNGSYMRR	2063
Canis_lupus_familiaris	HHGYMNTGMSKQSLNGSYMRR	2086
Homo_sapiens	HHGYMNTGMSKQSLNGSYMRR	2073
Pan_troglodytes	HHGYMNTGMSKQSLNGSYMRR	2070
Macaca_mulatta	HHGYMNTGMSKQSLNGSYMRR	2076
Callithrix_jacchus	HHGYMNTGMSKQSLNGSYMRR	2066
Mus_musculus	HHGYMNTGMSKQSLNGSYMRR	1763
Rattus_norvegicus	HHGYMNTGMSKQSLNGSYMRR	2039
Rhinatrema_bivittatum	HHGYMNSMSKQSLNGSYMRR	2017
2110.....2120.	