

## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

**File:** /media/morpheus/disk1/fst/pep\_msa/GC02  
**Date:** Tue Feb 1 12:12:39 2022

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[illegible]

	** . . *: : . *: *** :***** :*: : **** : . : * : : :	
Pavo_muticus	LRSKPATGGADDITIQALTERLDVVILLEKAESQQQCVALKKENLQRKEAEAAVAKTEELQ	117
Pavo_cristatus	LRSKPATGGADDITIQALTERLDVVILLEKAESQQQCVALKKENLQRKEAEAAVAKTEELQ	117
Gallus_gallus	LRSKPATGGADDITIQALTERLDVVILLEKAESQQQCVALKKENLQRKEAEAAVAKTEELQ	119
Chelonia_mydas	K-SKPAAGGADDITQALSERLDVILLEKAETIQQCVALKKENAKRRKEAEFVATKTEELQ	118
Mus_musculus	LKSKPVDGGTDDIIKVLTERLDALLLEKAETEQQCLCLKKENVKMKQOEVEDSVTKLEETH	116
Rattus_norvegicus	LKSKPVDGGTDDMIKVLTERLDALLLEKAETEQQCLCLKKENIKMKQOEVEDSVTKLEETO	118
Homo_sapiens	LRSKPVTEGTGDIIKALTERLDALLLEKAETEQQCLSLKKENIKMKQOEVEDSVTKMGDAH	117
Pan_troglodytes	LKSKPVTEGTGDIIKALTERLDALLLEKAETEQRCLSLKKENIKMKQOEVEDSVTKMGDAH	120
Macaca_mulatta	LKSKPVTEGTDDIIKALTERLDAILLEKAETEQQCLSLKKENIKMKQOEVEDSVTKMEDAH	120
Callithrix_jacchus	LKSKPVTEGTDDIIKALTERLDAILLEKAETEQQCLSLKKENIKMKQOEVEDSVTKIEDAH	117
Canis_lupus_familiaris	LKSKPVAGGADDIIKALTERLDAILLEKAETEQQCLCLKKENIKMKQOEIEDSVTKMEDVY	117
Equus_caballus	LKSKTVVGGTDDIVKALTERLDITLLEKAETEQQCLSLKKENIKMKQOEVEDSVTKMEDVH	117
Bos_taurus	LKSKLVAGG-ADIIKALTERLDVILLEKAETEQHCVSLKKENIKMKQOEVEDSVTKLEDVC	116
Rhinatrema_bivittatum	LKSKPAAEASEDDITQALTVRLDNVLEKAETQOQOLLMLKKENAKETQKVEDAITKTDEVO	120
Xenopus_tropicalis	LKSKPTEGVDDVQALDRLDVLEKAETQOQLVKLKKFYAKIKVESDAARKASELQ	117
	.....70.....80.....90.....100.....110.....120	

	.. : *	.... : *:	..... : :::	: :::	: .. :	
Pavo_muticus	KOLERSNTDSLEEIKALKNELINAQSKYNEDLTKLKTELEEQEKKOMELVEQIERCSDNQ	177				
Pavo_cristatus	KOLERSNTDSLEEIKALKNELINAQSKYNEDLTKLKTELEEQEKKOMELVEQIERCSDNQ	177				
Gallus_gallus	KOLEQSNDSLEEIKALKNELINAQSKYNEDLTKLKTELEEKEKKOMELVEQIKCCSDNQ	179				
Chelonia_mydas	KOLEQSSIEHLKDIEGLKNEVVRAQSKYNEDLAKLOKELBEEKKOMGLAEQLELHSNQ	178				
Mus_musculus	KEFEQSHRNVKIEISKNELMAVHSEHSKETAILOKELEEAVHKOVELRELQKSQSDSE	176				
Rattus_norvegicus	KEFEQSHRNVVREMESVKNELIAVHSEHSKEKAALORDLEGAVHROAELLEQLKSQSDSE	178				
Homo_sapiens	KELEQSHINYVKEIENLNKNELMAVRSKYSEDKANLOKELEEAMNTOLELSEQLKFONNSE	177				
Pan_troglodytes	KELEQSHINYVKEIENLNKNELMAVRSKYSEDKANLOKELEEAMNTOLELSEQLKFONNSE	180				
Macaca_mulatta	KELEQSHINYVKEIENLNKNELMAVRAKYSSEDKANLOKELEEAMNTOLELSEQLKFONNSE	180				
Callithrix_jacchus	KELQSHRNVKIEIENLNKNELMALHYSSEDKNLOKELEEAMNTOLELSEQLKFONNSE	177				
Canis_lupus_familiaris	KEFEQSQRNIVKIEIEDLNKNELMIIHSHKHSSEDKASLOKELEEATTKQLELSEQLKFQGDCE	177				
Equus_caballus	KEYEQSQRYEKEVENLNKNELIAVHSHKHSDDKASLOKELEEATRKQLELSEQLKFQSGSE	177				
Bos_taurus	KELEQSQRSYGKEIENLRNELITVHSHKYSNDKADWQKEVEEAACKQLELSEQLRFQSDSE	176				
Rhinatrema_bivittatum	KOWETSNAKFLKEIECLKAEIVTAQANHKEVDVTRLQTELODCITKQGDLTDOGLGKNQE	180				
Xenopus_tropicalis	SNYEQSSSCLSEKIEKMEIDENQNTKHKEEVEALKRELKEAVYK-----LELQGNQE	170				

# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      . :*** :::: *.* * . * . :*: : * : : :
Pavo_muticus      EEVKRLQDHVQKIKSTYEEQILCLNKOLETANDDNKEIATLQETIKSNSQCYHNEISSL 237
Pavo_cristatus    EEVKRLQDHVQKIKSTYEEQILCLNKOLETANDDNKEIATLQETIKSNSQCYHNEISSL 237
Gallus_gallus     EEVKRLQDYVQKIKSTYEDQILCLNKOLETVNDDKNKEIATLQETIRSNSQCYHNEISSL 239
Chelonia_mydas    EETKRLQEEVQKIKHTYEEQILCLNKOLEAISEDKNKEIENLHKVIKNSERHCSEINNL 238
Mus_musculus      DNVKRLQEEIQNITAAFEEQISCLKKLEATSDEKQOEIHLQKVIEDKAQHYQKDINTF 236
Rattus_norvegicus DNVKKLQEEIQNITAAFEEQTSCLQKLEATSDEKQOEIHLQKVIEDNAQHYQKDINTF 238
Homo_sapiens      DNVKKLQEEIEKIRPGFEEQILYLQKOLDATTDEKKETVTQLQNIIEANSQHYQKNINSL 237
Pan_troglodytes   DNVKKLQEEIEKIRPGFEEQILYLQKOLDATTDEKKETVTQLQNIIEANSQHYQKNINSL 240
Macaca_mulatta    DNVKKLQEEIEKIRPAFEEQILYLQKOLDATTDEKKETVTQLQNIIEANSQHYQKNINSL 240
Callithrix_jacchus DNVKKLQEEIEKIRPAFEEQILYLQKOLDTTTDEKKETVTQLQNIIEANSQHYQKNINSL 237
Canis_lupus_familiaris DKVKKLQEEIQNIRPAFEEQILYLQNLRAATNEKEQETIRLQEVIEANSQHYQKDINGL 237
Equus_caballus    DNVKKLQGEIQKIRPAFEEQILYLQKOLEAATNEKEQETIQKQVIEANSQHYQKHVNSL 237
Bos_taurus        DSVKKLQEEIQKIKLAFEDQILCLQKOLETATNEKEQETIHLQGVIEANCOQYQKDINSL 236
Rhinatrema_bivittatum DEIQRLQEEELQKIPAYEKQISCLTKKLEVMEEKEQETISLQEAQKLDSERNHDEISNL 240
Xenopus_tropicalis GEIKKLQVDVEQMRSSYEEQISNLQRLDAVIEEKNQEIGNLNNSQLLVHQQHQHEIRNL 230
      .....190.....200.....210.....220.....230.....240

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      *: :. :*: : * :*: : : : :
Pavo_muticus      SEELKQLKIAHQEEVSELMHHIEVSKENEKQNIHQHLSLAEADLRKEKNMKDEAYG 297
Pavo_cristatus    SEELKQLKIAHQEEVSELMHHIEVSKENEKQNIHQHLSLAEADLRKEKNVKDEAYG 297
Gallus_gallus     SEELKQLKIAHQEEVSELMHHIEISSKENEKQNIHQHLSLAEADLIKEKNVKDEAYG 299
Chelonia_mydas    HEELIQLKGAHQEEVSELMCOLEATSKEYEERNQINRRKLDLTKOHLVKESMKGELCA 298
Mus_musculus      QAEILQLRATHKEEVTELMSQIETSAKEHEAEIN---KLKENRVTLQCEAS-ENIPEKYQC 292
Rattus_norvegicus QEEIVQLRATHKEEVNELMSQMETLAKHEEAVERN---KLKENRVTLQCEAS-ETIPENYQC 294
Homo_sapiens      QEELLQLKAIHQEEVKELMCQIEASAKEHEAEINKLNLKENLVKQCEASEKNIQKKYEC 297
Pan_troglodytes   QEELLQLKAIHQEEVKELMCQIEASAKEHEAEINKLNLKENLVKQCEASEKNIQKKYEC 300
Macaca_mulatta    QEELLQLKAIHQEEVKELMCQIEASAKEHEAEINKLNLKENLVKQCEASEKNIQKKYEC 300
Callithrix_jacchus QEELLQLKAMHQNVEVKELVCQIEASAKEHEAEINKLNLKENLVKQWEASEKNIQKKYEC 297
Canis_lupus_familiaris KEELLQLRTHQEQIKELMCQIEASAKEDAGVNNLNQLENLVTOCKASEMYVQEKCEC 297
Equus_caballus    QEELLQLKAAHQEEVKELMCQIEVSAKEHEAEVNSLNQLENLVKQCEASEKNIQKKYEC 297
Bos_taurus        QEELVRLKSTHQEEVKELMCQIETSAKEHEAEVNYLIQKDNLVKRCQCEASEKNIQKKYEC 295
Rhinatrema_bivittatum HQELLKVNSAHQEEMSGLLNQLEASAKDYEQGNQKDDQIQCLREOFLAKEASLQELNLT 300
Xenopus_tropicalis NEELHKLNRNVHQDKVLDLKSQLESAIEYVKQKESMQELLN---QYREKENMLLEMET 286
      .....250.....260.....270.....280.....290.....300

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      : . : : : : :*: *: * :*: :*:
Pavo_muticus      HTEQHEHDFEQLKQALSKNMEGKVDVLDMEEPCEAKMEEKIRQLECSLGDLSQHSIL 357
Pavo_cristatus    HTEQHEHDFEQLKQALSKNMEGKVDVLDMEEPCEAKMEEKIRQLECSLGDLSQHSIL 357
Gallus_gallus     HTEQHKHDFEQLKQVLNKNIEDKVNVDLDMQEEPCVEAKMEEKIRHLECSLGDLSQHSIL 359
Chelonia_mydas    SNEKYEHELEQLREAVN-----ETDVKDVGGETYVDTKMEEKVKVYLEHILKELESQHSIL 353
Mus_musculus      ESE-----NLNEVASDASPESQNCSSVALQEDPSAEQTVCDKVRQLEDLSLKELESQHSIL 346
Rattus_norvegicus ESE-----SLNEDTSDASQENQKCSVALQEDPFAEHTVYDKVRQLEDLSLKELESQHSIL 348
Homo_sapiens      ELE-----NLRKATSNANQDNQICSILLQENTFVEQVNEKVKHLEDTLKELESQHSIL 351
Pan_troglodytes   ELE-----NLRKATSNANQDNQICSILLQENTFVEQVNEKVKHLEDTLKELESQHSIL 354
Macaca_mulatta    ELE-----NLRKATSNANQDNQMCSSLLQENTFVEQVNEKVKHLEDTLKELESQHSIL 354
Callithrix_jacchus ELE-----NLRKATSNANQDSQMCSSLLQENTFVEQVNEKVKHLEDTLKELESQHSIL 351
Canis_lupus_familiaris ELE-----NLKNAP-NANHKNAFPLVLQED--AEQVNEKVKHLENTLKELESQHSIL 348
Equus_caballus    EVE-----NLEKVS-NADQENQMCSSLLLEEGTCVEQVDEKVKHLEDTLKELRSQHSIL 350
Bos_taurus        ELE-----NEGKAS-GAGQENQVCSLLQEDSLVEQAVNEKVRHLEDALKELESQHSIL 348
Rhinatrema_bivittatum SKEKYECELERLQKYVRASKENHEDFTKGQDDPSADSKADEKVHYLDTVLKDLESKHSIL 360
Xenopus_tropicalis NNK-----KHALEVKHLKEKLEKSMVPEAQVVPVVIDDKVLILENLLTDESQQSIV 340
      .....310.....320.....330.....340.....350.....360

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## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	::*:** .*: * *** : :. *.*:**:**:*:***** * *: :*:*** * KDELTYMSNVKCLKLEEEIHRIKDEYFHEREDLDFKINELQLIKEDYCCVIEKCLKLELQAA KDELTYMSNVKCLKLEEEIHRIKDEYFHEREDLDFKINELQLIKEDYCCVIEKCLKLELQAA KDELTYMSNVKCLKLEEEIHRIKDEYFHEREDLDFKINELQLIKEDYCCVIEKCLKLELQTA KDELTYMNVNKLKLEKEIQRAKDEYFHEREDLEFKINELQLAKEDHCCVIEKCLKSELQAT KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGYVVEKCLKYEREDL KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGYVVEKCLKYEREDL KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGCVIEKCLKSELAGL KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGCVIEKCLKSELAGL KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGCVIEKCLKSELAGL KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGCVIEKCLKSELAGL KDEVTYMNVLKCLKLEIDAQHVKDEFLHEREDLEFKINELLALAKEEOCCVIEKCLKFELDDS KDEVTYMNVLKCLKLEIDAQHIKDEFFHEREDLEFKINELLALAKEEOCVVIEKCLKSELEDS KDEVTYMNVLKCLKLEIDAQHIKDEFFHEREDLEFKINELLALAKEEOGYIIIEKCLKSELEDA KDELTYTNVNVKIKLEMEVQQLKDEYFHDREDLDFKINELQLAREDYSCITIEKCLKSELQNA QEELTYTNVNVKEKLKLEIKLNKISEYFHEREELEFKINELQLAIEDYNGLLIEKCLKSELRIA .....370.....380.....390.....400.....410.....420	
Pavo_muticus	KDELTYMSNVKCLKLEEEIHRIKDEYFHEREDLDFKINELQLIKEDYCCVIEKCLKLELQAA	417
Pavo_cristatus	KDELTYMSNVKCLKLEEEIHRIKDEYFHEREDLDFKINELQLIKEDYCCVIEKCLKLELQAA	417
Gallus_gallus	KDELTYMSNVKCLKLEEEIHRIKDEYFHEREDLDFKINELQLIKEDYCCVIEKCLKLELQTA	419
Chelonia_mydas	KDELTYMNVNKLKLEKEIQRAKDEYFHEREDLEFKINELQLAKEDHCCVIEKCLKSELQAT	413
Mus_musculus	KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGYVVEKCLKYEREDL	406
Rattus_norvegicus	KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGYVVEKCLKYEREDL	408
Homo_sapiens	KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGCVIEKCLKSELAGL	411
Pan_troglodytes	KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGCVIEKCLKSELAGL	414
Macaca_mulatta	KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGCVIEKCLKSELAGL	414
Callithrix_jacchus	KDEVTYMNVLKCLKLEMDAQHIKDEFFHEREDLEFKINELLALAKEEOGCVIEKCLKSELAGL	411
Canis_lupus_familiaris	KDEVTYMNVLKCLKLEIDAQHVKDEFLHEREDLEFKINELLALAKEEOCCVIEKCLKFELDDS	408
Equus_caballus	KDEVTYMNVLKCLKLEIDAQHIKDEFFHEREDLEFKINELLALAKEEOCVVIEKCLKSELEDS	410
Bos_taurus	KDEVTYMNVLKCLKLEIDAQHIKDEFFHEREDLEFKINELLALAKEEOGYIIIEKCLKSELEDA	408
Rhinatrema_bivittatum	KDELTYTNVNVKIKLEMEVQQLKDEYFHDREDLDFKINELQLAREDYSCITIEKCLKSELQNA	420
Xenopus_tropicalis	QEELTYTNVNVKEKLKLEIKLNKISEYFHEREELEFKINELQLAIEDYNGLLIEKCLKSELRIA	400

	..	....	: .	::	:*::*	:::	*	*::	:	*:	*::	:::
Pavo_muticus	RRHWET	TAAEHKLE	TQNLRE	QHEREI	SELNKT	LLSS	SE	EKEK	MALV	FMEO	ELKD	OLEKIT
Pavo_cristatus	RRHWET	TAAEHKLE	TQNLRE	QHEREI	SELNKT	LLSS	SE	EKEK	MALV	FMEO	ELKD	OLEKIT
Gallus_gallus	RHHYET	TAAEHKLE	TQNLRE	QHEREI	SELNKT	LLSS	SE	EKEK	MALV	FMEO	ELKD	OLEKIT
Chelonia_mydas	RHGYDI	TVKERE	LVFQSL	REKQ	EREI	SELH	QITL	LS	SENK	ENMALV	FETD	LKBOYKLI
Mus_musculus	NRQLCCA	VEQH	NKEI	QRLQ	EH	HQ	KE	VS	EL	SETF	IS	GS
Rattus_norvegicus	NRQLCCT	VEQH	NKEI	QRLQ	EH	HQ	KE	VS	EL	SETF	MS	GS
Homo_sapiens	NKQFCYT	VEQH	NREV	QSLKE	QH	QKEI	SELN	ETFL	SD	SE	EK	KL
Pan_troglodytes	NKQFCYT	VEQH	NKEV	RS	SLKE	QH	QKEI	SELN	ETFL	SD	SE	EK
Macaca_mulatta	NKQFCCT	VEQH	NKEV	QSLKE	QH	QKEI	SELN	ETFL	SD	SE	EK	KL
Callithrix_jacchus	NKQFCCT	VEQH	NKEI	QSLKE	QH	QKEI	SELN	ETFL	SD	SE	EK	KL
Canis_lupus_familiaris	HKQFCYT	VEQH	NKEV	QSLKE	HH	QKEI	SELN	ETFL	SV	SE	EK	KL
Equus_caballus	NQOFFST	IMEQH	NKEI	QSLKE	QH	QKEI	AE	LN	ETFL	SG	SE	EK
Bos_taurus	NKQFCCT	IEQH	NKEV	QSLK	QH	QKEI	TEL	N	ETFL	SD	SE	EK
Rhinatrema_bivittatum	KDHHEV	MSK	QHN	LRVQ	ALEG	QHV	KEMS	DL	NEAL	IS	ASE	EK
Xenopus_tropicalis	KEDFEK	SEK	QNSV	DIQ	AMKE	QH	IK	IT	DLK	OSIT	QF	NE

	**...:.*:.*: : : * ***:** ***::*:***** :: *****: : :::::	
Pavo_muticus	EKEDAVLSYDSLREITLETITQTELGESAGKISQOFESMKQQQASDVSELOOKLRAAFNEKD	537
Pavo_cristatus	EKEDAVLSYDSLREITLETITQTELGESAGKISQOFESMKQQQASDVSELOOKLRAAFNEKD	537
Gallus_gallus	EKEDAVLSYDSLREITLETITQTELGESAGKISQOFESMKQQQASDVSELOOKLRAAFNEKD	539
Chelonia_mydas	EKEEAVFNYESLREITLETITQTELGESAGKISQEFESMKQQQASDVSELOOKLRSAFNERD	533
Mus_musculus	EKQEVVLNYESLREIMMEILTQTELGESAGKISQEFETMKQQQASDVHELQOKLRSAFNEKD	526
Rattus_norvegicus	EKQEVVLNYESLREIMMEILTQTELGESAGKISQEFETMKQQQASDVHELQOKLRSAFNEKD	528
Homo_sapiens	EKQEAILNYESLREIMEILTQTELGESAGKISQEFESMKQQQASDVHELQOKLRSAFTEKD	531
Pan_troglodytes	EKQEAILNYESLREIMEILTQTELGESAGKISQEFESMKQQQASDVHELQOKLRSAFTEKD	534
Macaca_mulatta	EKQEAILNYESLREIMEILTQTELGESAGKISQEFESMKQQQASDVHELQOKLRSAFTEKD	534
Callithrix_jacchus	EKQEAILNYESLREIMEILTQTELGESAGKISQEFESMKQQQASDVHELQOKLRSAFTEKD	531
Canis_lupus_familiaris	EKQEAILNYESLREIMEILTQTELGESAGKISQEFESMKQQQASDVNELQOKLRSAFNEKD	528
Equus_caballus	EKQEAILNYESLREIMEILTQELGESAGKISQEFESMKQQQASDVNELQOKLRSAFNEKD	530
Bos_taurus	EKQEAMLNYESLREIMEILTQELGESAEKISQEFESMKQQQAFNINELQOKLRSAFNEKD	528
Rhinatrema_bivittatum	EKEEAVSVYESLKETMVTLOELGESAGKISQEFESMKQQQAADVQELQOKLRSAFNEKD	540
Xenopus_tropicalis	EKSEAVRSYENLREITLVSLOELGDSAGKISREFEAMKQQQAIDVHELQOKLRSAFNEKD	520
	.....490.....500.....510.....520.....530.....540	

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      * *: : * : : * : : : * :
Pavo_muticus      VLLETVNRLQAETQKLSYOLEIEELKHKIVGLQEEENDTVTSCVHOKDASIKELKEEKIIA 597
Pavo_cristatus    VLLETVNRLQAETQKLSYOLEIEELKHKIVGLQEEENDTVTSCVHOKDASIKELKEEKIIA 597
Gallus_gallus     GLLETVNRLQAETQKLSYOLEIEELKHKIVSLQEEENDTITSCVHOKDASIKELKEEKIIA 599
Chelonia_mydas    VLLETVNRLQEEAEKLSKQAEVEELKHKIVSFOEANAAMVISLDOKETTVKELEEKVTS 593
Mus_musculus      ALLETVNRLQGENEKLLSQQELVPELESTIKNLQADNSMYLASLGOKDTMLQELEAKISS 586
Rattus_norvegicus ALLETINRLQGENEKLLSQQELVSELESTMKNLKADNSMYLASLGOKDTLLQELEAKISS 587
Homo_sapiens      ALLETVNRLQGENEKLLSQQELVPELENTIKNLQEKNGVYLLSLSDRTMLKELEGKINS 591
Pan_troglodytes   ALLETVKRLQGENEKLLSQQELVPELENTIKNLQEKNGVYLLSLSDRTMLKELEGKINS 594
Macaca_mulatta    ALLETVNHLQGENEKLLSQQELVPELENTIKNLQEKNGVYLLSLSDRTMLKELEGKINS 594
Callithrix_jacchus ALLETVNHLQGENEKLLSQQELVPELENTIKNLQEKNEVYLLSLSDRTMLQELEAKISS 591
Canis_lupus_familiaris ALLETVNRLQRENE-RLSQEELVRELENTIKSLQEKNEVCLISLHORDKIIQDFEEKISS 587
Equus_caballus    ALLETVNRLQRENEKLLSQQEFVPELENTIKNLQEKNEVYLVSLSDRTMLQELEAKISS 590
Bos_taurus        ALLETVNYLQKENDNLLSQQECVPELENTIKNLQEKNELVYLVSLSDRTMLQEFKAKISS 588
Rhinatrema_bivittatum ALGETVKTLQAEAGGVSAKQEESEEMQQTIGSLQKENEVMAILLDQRTAIHELEGKMN 600
Xenopus_tropicalis DLLETVNRLKAEVDLLSGKQAECEELQLQITTLHHKNEEVVASLHRODEMLKDMETKMGQ 580
      .....550.....560.....570.....580.....590.....600

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Pavo_muticus      LANQNKDILNEVKCSGEEREALQERCKQEQGKVQELQEEVDVNN----- 641
Pavo_cristatus    LANQNKDILNEVKCSGEEREALQERCKQEQGKVQELQEEVDVNN----- 641
Gallus_gallus     LANQNKDILNEVKCSGEEREALQERCKQEQGKVQELQEEVDVNN----- 643
Chelonia_mydas    LASQKDGILSELKCSSTEEVEKLQEMCKKEQEKVLGLQQQAEFVN----- 637
Mus_musculus      LAKEKDDFISKIKTSHEEMDDLHOKWEREQRLSVELREAAGQAA----- 630
Rattus_norvegicus LAEEKDDFISKIKTSREEIDDLHOKWEREQKLSVELREAAGQAA----- 631
Homo_sapiens      LTEEKDDFINKLKNSHEEMDNFHKKCEREERLILELGKKVEQTT----- 635
Pan_troglodytes   LTEEKDDFINKLKNSHEEMDNFHKKCEREERLILELGKKVEQTT----- 638
Macaca_mulatta    LTEEKDDFINKLKNSYEEMDNFHKKCEREERLILELGKKVEQTT----- 638
Callithrix_jacchus LTEEKDDFINKLKNSYEEMDSLHKKCEREERLIIELEKKIERTT----- 635
Canis_lupus_familiaris LTEEKNNFISKIKLSDEEMDNLNKKCEKEERLIIELRGKVKQSS----- 631
Equus_caballus    LTEEKDDFISKIKSSHEEMDNLHKKCERGERLILELREKVEQTT----- 634
Bos_taurus        LTEEKYDFISKMRSSHEEMDNLHKKCEREERLTVELREKVDQTA----- 632
Rhinatrema_bivittatum VVLERDDVLTMMKFYQEGSSNLQEECERERTRGLELQHKAEELD----- 644
Xenopus_tropicalis TTIQNEEVFSTIKSSTEQICKLQEICNNEKSRALSQKETEEQANLIAELTQKIDKLTEK 640
      .....610.....620.....630.....640.....650.....660

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Pavo_muticus      ----- 641
Pavo_cristatus    ----- 641
Gallus_gallus     ----- 643
Chelonia_mydas    ----- 637
Mus_musculus      ----- 630
Rattus_norvegicus ----- 631
Homo_sapiens      ----- 635
Pan_troglodytes   ----- 638
Macaca_mulatta    ----- 638
Callithrix_jacchus ----- 635
Canis_lupus_familiaris ----- 631
Equus_caballus    ----- 634
Bos_taurus        ----- 632
Rhinatrema_bivittatum ----- 644
Xenopus_tropicalis LSGSENFSAELKLQLESLLLERESNASYDEMLNLKEEKEMLSKDFERLMAEHSSCLMLQE 700
      .....670.....680.....690.....700.....710.....720

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Pavo_muticus	-----	641
Pavo_cristatus	-----	641
Gallus_gallus	-----	643
Chelonia_mydas	-----	637
Mus_musculus	-----	630
Rattus_norvegicus	-----	631
Homo_sapiens	-----	635
Pan_troglodytes	-----	638
Macaca_mulatta	-----	638
Callithrix_jacchus	-----	635
Canis_lupus_familiaris	-----	631
Equus_caballus	-----	634
Bos_taurus	-----	632
Rhinatrema_bivittatum	-----	644
Xenopus_tropicalis	NIKNMNDLQEKLTNAYNEKENVLLETVNNLQEEAKVLLSROTECEELQLQIENLQEKNEEV .....730.....740.....750.....760.....770.....780	760

Pavo_muticus	-----	641
Pavo_cristatus	-----	641
Gallus_gallus	-----	643
Chelonia_mydas	-----	637
Mus_musculus	-----	630
Rattus_norvegicus	-----	631
Homo_sapiens	-----	635
Pan_troglodytes	-----	638
Macaca_mulatta	-----	638
Callithrix_jacchus	-----	635
Canis_lupus_familiaris	-----	631
Equus_caballus	-----	634
Bos_taurus	-----	632
Rhinatrema_bivittatum	-----	644
Xenopus_tropicalis	MTLLHOKCELLKEMEELKGAKMONSDVSCAYQSSGEEINKLQDMCKSEQDKNSCLOKEF .....790.....800.....810.....820.....830.....840	820

	: :.*.:*.: *.: : : *.: : :	
Pavo_muticus	---QYNSDLKKKLEELTESLNDALTGKNENAEMLEQLENQIDTLVRERESLSSEVSALR	697
Pavo_cristatus	---QYNSDLKKKLEELTESLNDALTGKNENAEMLEQLENQIDTLVRERESLSSEVSALR	697
Gallus_gallus	---QYNSDLKKKLEELTERLNDALTGKNENTKMLEQLENQIDTLVRERENLSSEVSALR	699
Chelonia_mydas	---QGNSDLKKNVEDLTETLKEALKEKDENNOKLVQLEEOMEALLDKKSLLSOTYTLH	693
Mus_musculus	---QHNSLRQVSELTGKLDELVREKSONDQ---SITVQMKMTEDQEALSSKIKSLY	683
Rattus_norvegicus	---QHNSLRQVSELTGKLDELVREKSONDQ---NIMVQMKMTEDQEALSSKIKSLY	684
Homo_sapiens	---QYNSELEQKVNELTGGLEETLKEKDQNDQKLEKLMVQMKVLSQVLSAEVKSLY	691
Pan_troglodytes	---QYNSELEQKVNELTGGLEETLKEKDQNDQKLEKLMVQMKVLSQVLSAEVKSLY	694
Macaca_mulatta	---QYNSELEQKVNELTGGLEETLKEKDQNDQKLEKLMVQMKVLSQVLSAEVKSLY	694
Callithrix_jacchus	---QYNSKLEQKVNELTGGLEETLKEKDQNDQVVEKLVVQMKILSEDKEVLSAEVKSLY	691
Canis_lupus_familiaris	---QYNTELEQKVNELTGELEETLKEKDQNNQKLETLMIQKTMSEDQEALSSEAKFLY	687
Equus_caballus	---QYNSELEQKVNELTGGLEETWKEKDQNNQKLEKLMVQKLTLSQVLSAEVKSFLH	690
Bos_taurus	---QYNSELEQKVNELTAGLEETLKEKDEKNRKLEKLTQQLKILSKDQEATSLEVRSLR	688
Rhinatrema_bivittatum	---KHNSLRQVSELTGKLDELVREKSONDQ---SCORLEGMEKQIEAFTQEKELLLNETQALQ	700
Xenopus_tropicalis	DDQEQLIANLKNIEELTEKLQDSIKRNDYAGNERDNLQQQVESLQMCCKDLETQCKCQ .....850.....860.....870.....880.....890.....900	880

## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	.* : .* : : : : : : : : : : : : : : : : *	
Pavo_muticus	EENKKIGQKEEELSKELEKITYEKDGWLVLKEQSENLEKKLQMMTAEKDHMSLLESEQA	757
Pavo_cristatus	EENKKIGQKEEELSKELEKITYEKDGWLVLKEQSENLEKKLQMMTAEKDHMSLLESEQA	757
Gallus_gallus	EENKKIVQKEEELSKELEKITYEKDGWLVLKEQFENLEKKLQMTAEKDHMSLLESEQV	759
Chelonia_mydas	KENEKINKKDKISSNLEKVAEEKEDWLVFKEQAESLEKQLQIATEEKDHLTMLLENKQA	753
Mus_musculus	EENNRLHSEKAQLSRDLEALQAQOD--FAHKEHVAAFEKKLQLMVEERDDLNLKLLNEQV	741
Rattus_norvegicus	EENNRLHSEKVLQSRDLEALQSQOD--FAYKEHVAAFEKKLQLMVEERDDLNLKLLNEQV	742
Homo_sapiens	EENNKLSSEKKQLSRDLEVFLSQKE-DVILKEHITQLEKKLQLMVEEQDNLNLKLLNEQV	750
Pan_troglodytes	EENNKLSSEKKQLSRDLEGFLSQKE-DVILKEHITELEKKLQLMVEEQDNLNLKLLNEQV	753
Macaca_mulatta	EENNKLSSEKKQLSRDLEVFLSQKN-DVILKEHITELEKKLQLMVEERDNLNLKLLNEQV	753
Callithrix_jacchus	EENNKLSSEKKQLSKDLEVFLSQKE-DVFLREHITTELEKQLQLIVEERDNLNLKLLNEEV	750
Canis_lupus_familiaris	EENNRLSSEKSQLNRNLEALLSQKEGDFMLREHISELEKKLQLTVKERDNLSTLFENEQD	747
Equus_caballus	EENSRLSSEKQNQLMRDLEAFLSQKEGDSMLKGQISELEKKLQLIVEERDNLSKLFENEQV	750
Bos_taurus	EENSRLSSEKQNLLSRDLEALLSQKEGDTVTFQEQINKLEELRLAVRERDNLNLKLLNEQV	748
Rhinatrema_bivittatum	DEMAGLHAQKTIILGSELEQFTCEREGWLVFKEQADLEKKLEMVTEEKQQLSKLLESQQ	760
Xenopus_tropicalis	NEVLNVSKEDVLRDRDFRLLSHEHSECFSLRQELEELRMKFQVLAEDKQVITKFLSEQH	940
	.....910.....920.....930.....940.....950.....960	

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Pavo_muticus	HKSLVVRTQLYHILEOVGYGISDS-	EECDFLNLLQIANDHLTOMKE-KQCFALONEEKIL	815												
Pavo_cristatus	HKSLVVRTQLYHILEOVGYGISDSN-	EECDFLNLLQIANDHLTOMKE-KQCFALONEEKIL	815												
Gallus_gallus	HKSLVVRTQLYHILEOVGYGISSDSN-	EECDFLNLLQIANEHLTKMKE-KQCFALONEEKVL	817												
Chelonia_mydas	HALLVKTLQYLSLLEIGVSRLSDDDDEHDAINLLQVANESLAKMKEEKQSLTLONDEKVL	813													
Mus_musculus	QKS FVKTLQLYEYLKQLRASILEEN-EEEDVVKLITQAVGESLVKVKEEEHNLFVFYDARVL	800													
Rattus_norvegicus	QKS FVKTLQLYEFLKQMRPSILEDN-EEEDVVTVLKAVGESLVTVKEEKHNLFVFYDARVL	801													
Homo_sapiens	QKLFVKTLQLYGFLKEMGSEVSEDS-E EKDVVNVLQAVGESLAKINEEKC NLA FORDEKVL	809													
Pan_troglodytes	QKLFVKTLQLYGFLKEMGSEVSEDS-E EKDVVNVLQAVGESLAKINEEKC NLA FORDEKIL	812													
Macaca_mulatta	QKLFVKTLQLYGFLKDMGSEVSEDG-E EKDVVNILQAVSES LAKINEEKC NLFQC DKKV F	812													
Callithrix_jacchus	QKLFVKTLQLYGFLKEMGSEVSEDS-E GKDVVNILQAVGESLAKINEEKC NLFQCDERVL	809													
Canis_lupus_familiaris	QKLFVKTLQNLNGFLKOMGSKASEDG-E-QDVMNVLQAIGESLT KINEEKC HNLI FOYDKRVA	805													
Equus_caballus	QKS FVKTLQLYGFLKOMKSKVSEEN-EEQDVVNVLQAMGESLAKMSEEKHNLFVOYDKRVV	809													
Bos_taurus	QKLFVKAQLCGFLEQMESKVSQER-EEQDVVNILQAMGSLDKINEEKC NLAFOYDKRIV	807													
Rhinatrema_bivittatum	QNEVIRTQLSSLLEEMGYKHADGGQEKDDVLCITLQAVKKSIVOITEENQS AVLRSDERTV	820													
Xenopus_tropicalis	QIEAVKCOLIVLRETL SIDDAEQD-----IIHMLQINSIAMSQINEEKC NMILORDEKSV	995													
	.....970.....980.....990.....1000.....1010.....1020														

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Pavo_muticus	HLQREIERLEEENATQYTEHRSIVQDFGREKDLLKEELEEVLSKEKALQHDIQELKSAGE	875
Pavo_cristatus	HLQREIERLEEENATQYTEHRSIVQDFGREKDLLKEELEEVLSKEKALQHDIQELKSAGE	875
Gallus_gallus	HLQREIERLEEENATQYTEHRSIQDFGREKDHLKEELEEVLSKEKALQHDIQELRSAGE	877
Chelonia_mydas	HLQKQVERLQENNVQCAELRSILLENVEKEKSLTEKLEGALSKEAALQLDIQERKSANE	873
Mus_musculus	ELENKIKCLQEDSAVQCEELRTLVRDSEQEKILLRKELDAVTSAKEALQLDLEMKNNTNE	860
Rattus_norvegicus	ELERRIKCLQEESVVOCEELRALVRDSEQEKILLRKELDEVTSSTKEALQCDILEMKNNTNE	861
Homo_sapiens	ELEKEIKCLQEESVVOCEELKSILLRDYEQEKVLLRKELEETIQSEKEALQSDLLEMKNANE	869
Pan_troglodytes	ELEKEIKCLQEESVVOCEELKSILLRDYEQEKVLLRKELEETIQSEKEALQSDLLEMKNANE	872
Macaca_mulatta	ELEKEIKCLQEESVVOCEELKSILLRDYEQEKVLLRKELEETIQSEKEALQSDLLEMKNANE	872
Callithrix_jacchus	ELEKEIKCLQEESVVOCEELKSILLDYEQEKVLLRKELEETIQSEKEALQSDLLEMKNVNE	869
Canis_lupus_familiaris	ELEKKMKCLQEENNVQCEELRSILLRDHEQEKVFLSKELEETILSHKEGLQSDLLEMKNANE	865
Equus_caballus	ELEKEIKFLREENNVQCEEFSSILLRDYEQEKVLLSKELEETILSEKEMQLQSDLLEMKNANE	869
Bos_taurus	ELBEEIKLQEEHNVQCEELRSILLTDYEQKKIVLRKELEEAALLEKEALQSDLLEMKNASE	867
Rhinatrema_bivittatum	NLQKELERLQEEHEAQSCELRLALEDHGRERVLLRREELAAGRSEKEALQEDLLEMKSANE	880
Xenopus_tropicalis	ELER----LQEKSESOAELRAILNDYSTEKVLLKEQLDETIRDKETILLNDLIVEMKNALE	1051
	.....1030.....1040.....1050.....1060.....1070.....1080	

# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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:      : ** *      : : :      : * .      : : *      : :
Pavo_muticus      KAM IENQDLLAKIGEMSEKLA FYE SQIQEQKG--SKAQEDLNFLLEQKETELRN VKDEL 933
Pavo_cristatus    KAM IENQDLLAKIGEMSEKLA FYE SQIQEQKG--SKAQEDLNFLLEQKETELRN VKDEL 933
Gallus_gallus     KAT IENQDLLAKIEEMSEKLA FYE SQIQEQKG--SKAQEELNFILEQKETELRN VKDEL 935
Chelonia_mydas    KARNENQDLLACIEEISQKLACYE SQIQEQKESFTEEQENLKLGLEQREAE LRNVKAE L 933
Mus_musculus      KASLENQTLSTQVEELSQT LHSRN-EVHDE--KVLVIEHENLRLLLKQRESELQDVRAEL 917
Rattus_norvegicus KTSLENQTLSTRVEELS RSLHSKN-EVHNE--KDLVIEHENLRLSLEQRESELQDVRAEL 918
Homo_sapiens      KTRLENQNLLIQVEEV SQ-TCSKS-EIHNEKEKCFIKEHENLKP LLEQKE--LRDRRAEL 925
Pan_troglodytes   KTRLENQNLLIQVEEV SQ-TCSKS-EIHNEKEKCFIKEHENLKP LLEQKESELDRRAEL 930
Macaca_mulatta    KTRLENQNLLIQVEEV SQ-TCNKN-EIHNEKEKCSIKEHENLKP LLEQKESELDRTRAEL 930
Callithrix_jacchus EIRLENQNLLIKVEEV SQ-TYSKN-EIHNEKEKCFIKEHENLKP LLEQKESELQDMRAEL 927
Canis_lupus_familiaris KLRLLENQNLLSQVEEASQKLCSKN-ETHEE-EQIFAKELNLRLSLEQKEAE LQNVRAQL 923
Equus_caballus    KTRLENQNLLVQVEEV SQNLCSN-EVHSEKEKCFTRELENLRLLLEQKESELQDVRAEL 928
Bos_taurus        QTRFENQNLLIQVEEMS QKLCREN-ENHKKKEKDLIKELENLRPLLEQKESELQDVKAEL 926
Rhinatrema_bivittatum KSRLENQGLLAHIEELTEKLEH HGRC TEERPEGFSTEICENLKRLLLEERESQLCDLKVEI 940
Xenopus_tropicalis KLKLQNDLVTDL EKL TADLET VKKEKAEMLVQLNQEGQMDLOS LIESKESNMNALTLEL 1111
.....1090.....1100.....1110.....1120.....1130.....1140

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Pavo_muticus      SSLKTVMETLT-EKND EQSSVAELQEKIGRLEKESAEKGEKLNKMKAVAVRAKKELDTSR 992
Pavo_cristatus    SSLKTVMETLT-EKND EQSSVAELQEKIGRLEKESAEKGEKLNKMKAVAVRAKKELDTSR 992
Gallus_gallus     SSLKTVMESLT-GKND EQSSVAELQEKIERLEKESAEKGEKLNKMKAVAVRAKKELDTSR 994
Chelonia_mydas    TSLKDFMEKSS-VKNDQSSVAELQEKIVCLEKQSAEREKLNKVVFVAVKARKELDSSR 992
Mus_musculus      ILLKDSLEKSPSVKNDQSLVKELEEKIESLEKESKDKDEKISKIKLVAVKAKKELD SNR 977
Rattus_norvegicus MLLKDSLEKSPSVKNDQSLVKELEEKIESLEKESKDKDEKISKIKLVAVRAKKELD SNR 978
Homo_sapiens      ILLKDSLAKSPSVKNDPLSSVKELEEKIENLEKECKEKEEKINKIKLVAVKAKKELDSSR 985
Pan_troglodytes   ILLKDSLAKSPSVKNDPLSSVKELEEKIENLEKECKEKEEKINKIKLVAVKAKKELDSSR 990
Macaca_mulatta    ILLKDSLAKSPSVQNDLLSSVKELEEKLENLEKEGKEKEEKINKIKLVAVKAKKELDSSR 990
Callithrix_jacchus ILLKDSLAVSPSVKNDSLSSVKELEEKIENLEKDCKEKEEKINKIKLVAVKAKKELDSSR 987
Canis_lupus_familiaris LLLKDSLEKSP-IENDQPSLLKELEEKIGYLEKESKEKEEKINKIKLVAVKAKKELDSSK 982
Equus_caballus    -ILKDSLEKSTSVENDQLS-VKELEEKIGYLEKESKEKDEKINKIKLVAVKAKKELDSSR 986
Bos_taurus        ISLKDSFKKSTSVESDQPS-VKEFEKIGYLEKEAKEKEEKINKIKLVAVKAKKELDSSR 985
Rhinatrema_bivittatum TALKDSIEKSSAERDQSEIAEMESKIGHLEKESKERDDKLNKIKAVAVKAKKELDSSR 1000
Xenopus_tropicalis TSVKDSLKSKALEFEQQAHSLETKIANLEKHSQT ECKCNKIKAVAVKAKKELDSCK 1171
.....1150.....1160.....1170.....1180.....1190.....1200

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Pavo_muticus      KEMQTLREELEVRSEK DQLSASMKDVIQGAESY-----KNLLMEYDKQGEELDSEKG 1045
Pavo_cristatus    KEMQTLREELEVRSEK DQLSASMKDVIQGAESY-----KNLLMEYDKQGEELDSEKG 1045
Gallus_gallus     KEMQALREELEVRSEK DQLSASMKDVIQGAESY-----KNLLMEYDKQGEELDSEKG 1047
Chelonia_mydas    KEMQSLREELEVRSEK DQLSSTMRDIIQGAESYKCFVHGFKNLLLEYDKQAEQLDLEKD 1052
Mus_musculus      KEAQTTLREELESVRSEK DRLSASMKEFLQGAESY-----KSLLLEYDKQSEQLDVEKE 1030
Rattus_norvegicus KEAQTLRDELESVRSEK DRLSASMKEFIQGAESY-----KNLLLEYDKQSEQLDVEKE 1031
Homo_sapiens      KETQTVKEELESRLSEK DQLSASMRDLIQGAESY-----KNLLLEYEKQSEQLDVEKE 1038
Pan_troglodytes   KETQTVKEELESRLSEK DQLSASMRDLIQGAESY-----KNLLLEYEKQSEQLDVEKE 1043
Macaca_mulatta    KETQTVREELESRLSEK DQLSASMRDLIQAAESY-----KNLLLEYEKQSEQLDVEKE 1043
Callithrix_jacchus KETQTLREELESVLSEK DQLSASMKDLIQGAESY-----KNLLLEYDKQSEQLDVEKE 1040
Canis_lupus_familiaris KEAQTTLREELDSVRSEK DQLSSTMRDLIQGAESY-----KNLLLEYDKQSEQLDLEKE 1035
Equus_caballus    KEAQTTLREELESVRSEK DQLSSTMRDLIQGAESY-----KNLLLEYDKQSEQLDVERD 1039
Bos_taurus        KEAQTQLQEELESVRSEK DQLSSTMRDLIQGAENY-----KNLLSEYDKQSEQLDAEKE 1038
Rhinatrema_bivittatum KEVQSVREELEVRSEK DQLSSTSMKDLIHGAESY-----KNLLLEYDKQAEQLDVEKE 1053
Xenopus_tropicalis KENQSIKAELEKNRSEK DQTS SMKDLVQSAEGY-----QNLLREYDRQVELLEVEKE 1224
.....1210.....1220.....1230.....1240.....1250.....1260

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## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	RANSLERQLDDLTROLQASSQQHDLQHSANEDLLARVETLQCNSKILLEAQILELOKVKA	1105
Pavo_cristatus	RANSLERQLDDLTROLQASSQQHDLQHSANEDLLARVETLQCNSKILLEAQILELOKVKA	1105
Gallus_gallus	RANSLERQIDDLTROLQVSSQQHDLQHSANEDLLARVETLQCNSKILLEAQILELOKVKA	1107
Chelonia_mydas	RATNLHQIDDLTROLTLSTQQDQLNSANEDLMARIETLQSNVTILLEAQILELOKAKA	1112
Mus_musculus	RAHNFERHIEDLTQOLRNSTCOYERLTSNEDLLARIETLQANAKILLEAQILEVOKAKGV	1090
Rattus_norvegicus	RANNFEHHIEDLTQOLRDSTCOYEKLTSNEDLLARIETLQANARLLEAQILEVORAKGV	1091
Homo_sapiens	RANNFEHRIEDLTQOLRNSTLCETINSNEDLLARIETLQSNAKLLEVOILEVORAKAM	1098
Pan_troglodytes	RANNFEHRIEDLTQOLRNSTLCETINSNEDLLARIETLQSNAKLLEVOILEVORAKAM	1103
Macaca_mulatta	RANNFEHHVEDLTQOLRNSTLCEKINSNEDLLARIETLQSNAKLLEVOILEVORAKAM	1103
Callithrix_jacchus	RANNFEHHIEDLSOLRNSTLQCEKLNSDNEDLLARIETLQSNAKLLEVOILEVORTKAI	1100
Canis_lupus_familiaris	RANNFEHHIEDLTQOLRNLTFQCEKLNSDNEDLLARIETLQSNVKLLEVOILEVOKAKAV	1095
Equus caballus	RANSFEHHIEDLTQOLRNSTFQCEKLNSDNEDLLARIDLQSNAKLLEVOILEVOKAKAI	1099
Bos_taurus	RANNFEHQVEDLTQOLRNLTFQCEKLTSDNEFLARIETLQSNACLLEAQILEVHKARAM	1098
Rhinatrema_bivittatum	RAGNSERFQTEEFKLQALRAVAQODHLRSKDILLTRVDTLQSNTKLLAEQILDMOKARAA	1113
Xenopus_tropicalis	RSKNVEHQIAELAKQTASTLEKEKLSLANEDLVAHMETMOTNNKLYEQILELOKAKFA	1284
	.....1270.....1280.....1290.....1300.....1310.....1320	

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Pavo_muticus	A E K E L E A E K L L K E Q K I K E H S G T L R E L E E L Q M O L Q E K K Y L Q K I M Q E L E L A K K D A Q K S T I M	1165
Pavo_cristatus	A E K E L E A E K L L K E Q K I K E H S G T L R E L E E L Q M O L Q E K K Y L Q K I M Q E L E L A K K D A Q K S T I M	1165
Gallus_gallus	A E K E L E A E K L L K E Q K M K H S G T V R E L E E L Q M O L Q E K K Y L Q K I M Q E L E L A K K D A Q K S T I M	1167
Chelonia_mydas	V D K E L E A E K F L K E Q K I K D H S S A V R E L E E L Q L Q L Q E K K H L Q K I M Q E L E L A R R D A Q K S T I M	1172
Mus_musculus	V E K E L D A E K L Q K E Q K I K E H V S T V N E L E E L Q L Q F O K E K K Q L Q K T M Q E L E L V K K D A Q Q T T I M	1150
Rattus_norvegicus	V E K E L E A E K L Q K E Q K I K E H V S T T N E L E E L Q L Q F O K E K K Q L Q K T M Q E L E L V K K D A Q Q T T I M	1151
Homo_sapiens	V D K E L E A E K L Q K E Q K I K E H A T T V N E L E E L Q V L Q K Q K Q L Q K T M Q E L E L V K K D A Q Q T T I M	1158
Pan_troglodytes	V D K E L E A E K L Q K E Q K I K E H A T T V N E L E E L Q V L Q K E K K Q L Q K T M Q E L E L V K K D A Q Q T T I M	1163
Macaca_mulatta	V D K E L E A E K L Q K E Q K I K E H A T T V N E L E E L Q V L Q K E K K Q L Q K T M Q E L E L V K K D A Q Q T T I M	1163
Callithrix_jacchus	V D K E L E A E K L Q K E Q K I K E H A T V N E L E E L R I Q L Q K E K K Q L Q K T M Q E L E L V K K D A Q Q T T I M	1160
Canis_lupus_familiaris	A D K E L E A E K L Q K E Q K I K E H A S S I N E L E E T Q L Q L Q K E K K Q L Q K T M Q E L E L V R K D A Q Q T T I M	1155
Equus_caballus	A D K E L E A E K L Q K E Q K I K E H A S S V S E L E E L Q L Q L Q K E K K Q L Q K T M H E L E L V R K D A Q Q T T I M	1159
Bos_taurus	A D K E L E A E K L Q K E Q K I K E H A S S V N E L E E L Q L Q L Q K E K K Q L Q K T M Q E L E L V R K D A Q Q T T I M	1158
Rhinatrema_bivittatum	V D K E L E A E K L L R E Q K I K D H S G T L K O L E D L Q M E L H K E K K Q L Q K T L Q E L E L V R K D A Q K S T I M	1173
Xenopus_tropicalis	V D K E L E A E K L V K E Q K I K D H S L S L S V Q D L N Q L Q K E K K Q L Q K T A Q E L E L V R R D A Q K S T I M	1344
	.....1330.....1340.....1350.....1360.....1370.....1380	

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Pavo_muticus	DMEIADYEKLVKELNQKITDKDSRIEDLEQETGIQKQKQETLQEEIKSLOSTMOQDEERN	1225						
Pavo_cristatus	DMEIADYEKLVKELNQKITDKDSRIEDLEQETGIQKQKQETLQEEIKSLOSTMOQDEERN	1225						
Gallus_gallus	DMEIADYEKLVKELNQKITDKDSRIEDLEQETGIQKQKQETLQEEIKSLOSTMOQDEERN	1227						
Chelonia_mydas	DMEMADYERLVKELNQKITDKNKIEDLEQEIRIQKQKQETLQEEIKSLQSSVVOHYEERN	1232						
Mus_musculus	NMEIADYERLMKELNQLTNKNSTIEDLEQEMKIQEKQKQETLQEEITSLOSSVVOHYEERN	1210						
Rattus_norvegicus	NMEIADYERLMKELNQLTNKNSKIEDLEQEMKIQKQKQETLQEEMTSLOSSVVOHYEERN	1211						
Homo_sapiens	NMEIADYERLMKELNQLTNKNKIEDLEQEIKIQKQKQETLQEEITSLOSSVVOQYEEKN	1218						
Pan_troglodytes	NMEIADYERLMKELNQLTNKNKIEDLEQEIKIQKQKQETLQEEITSLOSSVVOQYEEKN	1223						
Macaca_mulatta	NMEIADYERLMKELNQLSNKNKIEDLEQEIKIQKQKQETLQEEITSLOSSVVOQYEEKN	1223						
Callithrix_jacchus	NMEIADYERLMKELNQLTNKNKIDDLQEIQKQKQKQETLQEEITSLOALVQOYEEKN	1220						
Canis_lupus_familiaris	NMEIADYERLMKELNQLANKNSKIEDLEQEIKIQKQKQETLQEEMTSLOSSVVOQYEEKN	1215						
Equus caballus	NMEIADYERLLKELNQLTNKNSKIEDLEQEIKIQKQKQETLREEMTSLOSSVVOQYEEKN	1219						
Bos taurus	NMEIADYERLMRELNQLSNKNSKIEDLEQEIKIQKQKQETLQEEMTSLOAVLQOYEEKN	1218						
Rhinatrema_bivittatum	DMEIADYDRVLKELNHMIMEKKSOLEDELHELKMQNOKOEILQEEITSLHASVEDYEEKS	1233						
Xenopus_tropicalis	DMEIADYERLVKDLNOKISIKSSOLEDELQELQIQKQKQEMLQEEISSLOATVEQHEERS	1404						
	.....1390.....1400.....1410.....1420.....1430.....1440							



# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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:::*****.***** ::*.*:*****.***:***:::*****:
Pavo_muticus      AKIKQLLVKTKKELADSKQAENDHMLQASLKGELEASQQQVEAFKIQVAALTSEKHKAQ 1285
Pavo_cristatus    AKIKQLLVKTKKELADSKQAENDHMLQASLKGELEASQQQVEAFKIQVAALTSEKHKAQ 1285
Gallus_gallus     AKIKQLLVKTKKELADSKRAENDHMLQASLKGELEASQQQVEAFKIQVAALTSEKHKVQ 1287
Chelonia_mydas    SQIKQLLVKTKKELADSRQAESDHLILOASLKGELEASQQQVEVYKIQLAELTSEKHKIQ 1292
Mus_musculus      TKIKQLLVKTKKELADAKQAETDHLILQASLKGELEASQQQVEVYKIQLAEMTSEKHKIH 1270
Rattus_norvegicus AQIKQLLVKTKKELADAKQAETDHLILQASLKGELEASQQQVEVYKIQLAEMTSEKHKIH 1271
Homo_sapiens      TKIKQLLVKTKKELADSKQAETDHLILQASLKGELEASQQQVEVYKIQLAELITSEKHKIH 1278
Pan_troglodytes   TKIKQLLVKTKKELADSKQAETDHLILQASLKGELEASQQQVEVYKIQLAELITSERHKIH 1283
Macaca_mulatta    TKIKQLLVKTKKELADSKQAETDHLILQASLKGELEASQQQVEVYKIQLAELITSEKHKIH 1283
Callithrix_jacchus TKIKQLLVKTKKELADSKQAETDHLILQASLKGELEASQQQIEVYKIQLAELITSEKHKIH 1280
Canis_lupus_familiaris TKIKQLLVKTKKELADSKQAETDHLILQASLKGELEASQQQVEVYKIQLAELITSEKHKVH 1275
Equus_caballus    TKIKQLLVKTKKELADSKQAETDHLILQASLKGELEASQQQVEVYKIQLEITSEKHKIH 1279
Bos_taurus        TKIKQLLVKTKKELADLRQAETDHLILQASLKGELEASQQQVEVYKIQLAEVTAEKHKAH 1278
Rhinatrema_bivittatum TKMKQLLVNTKKELADLKQVETDHLILQASLKGELEANQQQVEIYKIQVAELTAEKHKVQ 1293
Xenopus_tropicalis TKMKQLLVRTKKELADAKHAESDQILLOASLKGELEASLQQVEAFKIQVAELTSDKHKVQ 1464
.....1450.....1460.....1470.....1480.....1490.....1500

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*:::  :*:::  :*:::  :*:::  .  *:::  :*:::  :*:::  :*:::  :
Pavo_muticus      EHLRTSSEQHQRITLSAYQOKIATLREECRAAQAEQASVTSEFESYKVRVHNVLKQOKNKS 1345
Pavo_cristatus    EHLRTSSEQHQRITLSAYQOKIATLREECRAAQAEQASVTSEFESYKVRVHNVLKQOKNKS 1345
Gallus_gallus     EHLRTSSEQHQRITLNAYQOKIATLREECRAAQAEQASVTSEFESYKVRVHNVLKQOKNKT 1347
Chelonia_mydas    EHLRTSLEQHQRITLSAYQOKIATLREECRAAQAEQASVTSEFESYKVRVHNVLKQOKNKS 1352
Mus_musculus      EHLKTSAEQHQRITLSAYQQRVVALQEEESRAAKAEQAQAVTSEFESYKVRVHNVLKQOKNKS 1330
Rattus_norvegicus EHLKTSAEQHQRITLSAYQQRVVALQEEESRAAKAEQAQAVTSEFENYKVRVHNVLKQOKNKS 1331
Homo_sapiens      EHLKTSAEQHQRITLSAYQQRVTALQEECRAAKAEQAQAVTSEFESYKVRVHNVLKQOKNKS 1338
Pan_troglodytes   EHLKTSAEQHQRITLSAYQQRVTALQEEESRAAKAEQAQAVTSEFESYKVRVHNVLKQOKNKS 1342
Macaca_mulatta    EHLKTSAEQHQRITLSAYRQRVTALQEEESRAAKAEQAQAVTSEFESYKVRVHNVLKQOKNKS 1343
Callithrix_jacchus EHLKTSAEQHQRITLSAYQQRVTALQEEESRAAKAEQAQAVTSEFESYKVRVHNVLKQOKNKS 1340
Canis_lupus_familiaris EHLKTSADQHQRITLSAYQOKVTALQEECHAAKAEQAQAVTSEFESYKVRVHNVLKQOKNKS 1335
Equus_caballus    EHLKTSADQHQRITLSAYQQRVTALQEECRAAKAEQAQAVTSEFESYKVRVHNVLKQOKNKS 1339
Bos_taurus        EHLKASADQHQRITLGAYQQRVSALQEECREARAEQAQAVTSEFESYKVRVHNVLKQOKNKS 1338
Rhinatrema_bivittatum EQLRISIEQQQRSISTYQOKIAALQDACS TAKAEQAQAVQSEFEGYKVRVHNVLKQOKNKS 1353
Xenopus_tropicalis EQLRALAEQQQRAAGTYQOKLSTLQEECAAQAEQVSVTSEFESYKVRVHNVLKQOKNKS 1524
.....1510.....1520.....1530.....1540.....1550.....1560

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** * *  ***:~::~  :~::~  ***  ***:~::~  :~::~  *  *~::~  **  :~::~  ***:~::~
Pavo_muticus      ASQTETEGAKQEREQLEMVIEQLKVKLOETQHNLMNAAEFQALQSEHDTLLERHNKMLQ 1405
Pavo_cristatus    ASQTETEGAKQEREQLEMVIEQLKVKLOETQHNLMNAAEFQALQSEHDTLLERHNKMLQ 1405
Gallus_gallus     ASQTETEGAKQEREQLETVIEQLKAKLOETQHNLMNAAEFQALQSEHDTLLERHNKMLQ 1407
Chelonia_mydas    ASQTETEGAKQEREHMEMVIDQLKVKLODAQHNLMNAAEFQALQSEHDTLLERHNKMLQ 1412
Mus_musculus      VSQVETEGAKQEREHLEMLIDQLKIKLQDSQNSLQISVSEYQTLQAEHDTLLERHNRMQLQ 1390
Rattus_norvegicus VSQAETEGAKQEREHLEMLIDQLKIKLQDSQNSLQISVSEFQTLQSEHDTLLERHNRMQLQ 1391
Homo_sapiens      MSQAETEGAKQEREHLEMLIDQLKIKLQDSQNNLQINVSELQTLQSEHDTLLERHNKMLQ 1398
Pan_troglodytes   MSQTETEGAKQEREHLEMLIDQLKIKLQDSQNNLQINVSELQTLQSEHDTLLERHNKMLQ 1402
Macaca_mulatta    MSQAETEGAKQEREHLEMLIDQLKIKLQDSQNNLQINVSELQTLQSEHDTLLERHNKMLQ 1403
Callithrix_jacchus VSQAETEGAKQEREHLEMLIDQLKIKLQDSQNNLQINVSELQTLQSEHDTLLERHNKMLQ 1400
Canis_lupus_familiaris VSQTETEGAKQEREHLEMLIDQLKIKLQDTQNNLQISVSELQTLQSEHDTLLERHNKMLQ 1395
Equus_caballus    VSQAETEGAKQEREHLEMLIDQLKIKLQDTQNNLQMSVSELQTLQSEHDTLLERHNKMLQ 1399
Bos_taurus        VSQTEAEGAKQEREHLEMLIDQLKIKLQDTQNNLQISTSELQALQCEHCALLERHNRMVLQ 1398
Rhinatrema_bivittatum ASQLENETVKQEREHMEMKMEQLKAKLODTQNNLHINVTELOTLQMEHDTLLDRHNKMLQ 1413
Xenopus_tropicalis TSQAHEVYKQEKELQSMVDQLKAKLOETQHNLMNAAEFQALQSEHDTLLERHNKMLQ 1584
.....1570.....1580.....1590.....1600.....1610.....1620

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## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*.* *****.*: *** :*: *: *:*:* : * :***.*::*:
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ETVAKEAELREKFCTIQSENVMVKTEHAQALSQLTAQNEALRNNFRDOVRNLOEEHRKTV	1465
ETVAKEAELREKFCTIQSENVMVKTEHAQALGQLTAQNEALRNNFRDOVRNLOEEHRKTV	1465
ETVAKEAELREKFCTIQSENVMVKTEHAQALSQLTAQNEALRNNFRDOVRNLOEEHRKTV	1467
ETVTKEAELREKVCTIQSENMVLKSEHAQTVSOLTTQNEAVRNSFRDOVRHLOEEHRKTV	1472
ETVTKEAELREKLCSVQSENTMMKSEHSQTMCLTSQNEALRTSFRDOVRHLODEHRKTV	1450
ETVTKEAELREKLCSAQSENTMLKSEHAQTMCLTSQNEALRNSFRDOVRHLODEHRKTV	1451
ETVSKEAELREKLCSIQSENMMMKS EHTQTVSQ L TSQNEVL R NSFRDOVRHLQEEHRKTV	1458
ETVSKEAELREKLCSIQSENMMMKS EHTQTVSQ L TSQNEVL R NSFRDOVRHLQEEHRKTV	1462
ETVSKEAELREKLCSIQSENMMMKS EHTQTVSQ L TSQNEVL R NSFRDOVRHLQEEHRKTV	1463
ETVSKEAELREKLCSIQSENMMMKS EHAQTVSQ L TSQNEIL R NSFRDOVRHLQEEHRKTM	1460
ETVSKEAELREKLCSIQSENMTLKSEHAQTVSQ L TSQNEVL H SFRDOVRHLQEEHRKTM	1455
ETVSKEAELREKLCSIQSENMMMKS EHAQTVSQ L TSQNEVL R SGFRDOVRHLQEEHRKTV	1459
EAVGKEAELREKLCSVQSENSALKAEHAQIVDQLTAQHEALRAGFREQVRQLQEEHRRTV	1458
ETVAKEAELREKLCTVQSENMVLKSEQAQTVSQ L TAQNEAL R NSFRDOVRQLQEDHRKTM	1473
ETVTKEAELREKLCSVQSEYTVLKT D HS Q VVS QLSAQNEALONSFSDOVRRLQDDQRKTV	1644
.....1630.....1640.....1650.....1660.....1670.....1680	

* : * . * . : : * : * : : :	: * .	.	:	*	:	: * * * : *	** ** :	:	* : * * *		
ETLQQQLSRVEAQLFQLKSEPTRGPAVSNPVPKSLRERRNTDLPVLVDVHAIAAREEGEGM	1525										
ETLQQQLSRVEAQLFQLKSEPTRGPTVSNPLPKNLRRRNTDLPVLVDVHAIAAREEGEGM	1525										
ETLQQQLSRVEAQLFQLKSEPTRGPAVSNPVPKNLRERRNTDLPVLVDVHAIAAREEGEGM	1527										
ETLQQQLSKVEAQFFOLKSEPTRGPSVSNNLVKNLRERRNTDPLLDVHTVAREEGEGM	1532										
ETLQHQLSKLEAQLFQLKSEPTRSPASSHQPskslrerrntdplldmhtvareegegm	1510										
ETLQHQLSKVETOLFQLKSEPPTKSPASSHQPskslrerrntdplldmhtvtreeeggm	1511										
ETLQQQLSKMEAQLFQLKNEPTTRSPVSSQqslknlrerrntdplldmhtvttreeeggm	1518										
ETLQQQLSKMEAQLFQLKNEPTTRSPVSSQqslknlrerrxntdplldmhtvttreeegt	1522										
ETLQQQLSRVEAQLFQLKNEPTTRSPVSSQqslknlrerrntdplldmhtvttreeeggm	1523										
ETLQQQLSKVEAQLFQLKNEPTTRSPVASQqslknlrerrntdplldmhtvttreeeggm	1520										
ETLQQQLSKVEAQLFQLKSEPATRSPAASHQPLKNLRERRSTDLPLLDMYAVTREEEGGM	1515										
ETLQQQLSKVEAQLFQLKSESATRSPASSHQPPLKNLRERRNTDPLLDMHTVTREDGEGM	1519										
ETLQQQLCRLEAQLLEPRSEPATRSPASSQqplrslrerrrsadlpfldvqvIAAREEGEGM	1518										
ESLQEQLSKVETOLFQLKSEPSITSSASSHPMKNLRDRRPDLPLPDMYKVAREEGEGM	1533										
ETLQQQLSKVEAQLFMKSES---NVASSHQPLGLGRERPVDPLLDMSVAREEGEGM	1701										
.....1690.....1700.....1710.....1720.....1730.....1740											

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***: * *.:* *:***.*.: : .. *: :*:** :*.:*.*.***
ETTDTESVSSASTYIPSLQQLNSPETKPE----TSQWQTELTKDELIEKLSSTTKSADH 1581
ETTDTESVSSASTYIPSLQQLNSPETKPE----TSQWQTELTKDELIEKLSSTTKSADH 1581
ETTDTESVSSASTYIPSLQQLNSPETKPE----TSQWQTELTKDELIEKLSSTTKSADH 1583
ETTDTESVSSASTYMPSLQQLNSPEAKFE----PPQWQTELTKDELIEKLSSTTKSADH 1588
ETTDSESVSSAGTHIQSLQQLSSPDTKLERLAETSLWHNFTKEELAEKLSSTTKSADH 1570
ETTDSESVSSAGTHIQSLQQLSSPD SKLERL TEASLWHTFTKEELAEKLSSTTKSADH 1571
ETTDTESVSSASTYTQSLQQLNSPETKLE----PPLWHAFTKEELVQKLSSTTKSADH 1574
ETTDTESVSSASTYTQSLQQLNSPETKLE----PPLWHAFTKEELVQKLSSTTKSADH 1578
ETTDTESVSSASTYTQSLQQLNSPETKFE----PPLWHAFTKEELVQKLSSTTKSADH 1579
ETTDTESVSSASTYTQSLQQLNSPETKLE----PPLWHAFTKEELVQKLSSTTKSADH 1576
ETTDTESVSSSGTHTQSLQQLNSPETKLE----PPLWHAFTKEELVQKLSSTTKSADH 1571
ETTDTESVSSASTHTQSLDQLNSPETKLE----PPLWHAFTKEELVQKLSSTTKSADH 1575
ETTDLEHGSPPASTPAQSLQQLSSPEARLE----PPAWNFTKEELVQKLSSTTKSADH 1574
ETTETESLSSSTSTHVP SLQQLNSPEAKLE----PPQWQPDFSKEELVQKLN TTAKSVDH 1589
ETTDTESVSSASTHIASFQQLSSAEAKND----PPQWHPELSKEELTQKLN TTKSVVDH 1757
.....1750.....1760.....1770.....1780.....1790.....1800

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: . **::*****:*****.***.:*****.*****:***.***
Pavo_muticus      LNELLRESEATNAILMEQIKLLKSEIRRLERNQEREKSVANLEYLKNVLLQFIFLKSGSE 1641
Pavo_cristatus    LNELLRESEATNAILMEQIKLLKSEIRRLERNQEREKSVANLEYLKNVLLQFIFLKSGSE 1641
Gallus_gallus     LNELLRESEATNAILMEQIKLLKSEIRRLERNQEREKSVANLEYLKNVLLQFIFLKSGSE 1643
Chelonia_mydas    LNGLLHSEATNAILMEQIKLLKSEVRRRLERNQEREKSVANLEYLKNVLLQFIFLKAGSE 1648
Mus_musculus      LNGLLRETEATNAILMEQIKLLKSEIRRLERNQEREKSVANLEYLKNVLLRFIFLKPGSE 1630
Rattus_norvegicus LNGLLRETEATNAILMEQIKLLKSEIRRLERNQEREKSVANLEYLKNVLLRFIFLKPGSE 1631
Homo_sapiens      LNGLLRETEATNAILMEQIKLLKSEIRRLERNQEREKSAANLEYLKNVLLQFIFLKPGSE 1634
Pan_troglodytes   LNGLLRETEATNAVLMQIKLLKSEIRRLERNQEREKSAANLEYLKNVLLQFIFLKPGSE 1638
Macaca_mulatta    LNGLLRETEATNAILMEQIKLLKSEIRRLERNQEREKSAANLEYLKNVLLQFIFLKPGSE 1639
Callithrix_jacchus LNGLLRETEATNAILMEQIKLLKSEIRRLERNQEREKSAANLEYLKNVLLQFIFLKPGSE 1636
Canis_lupus_familiaris LNGLLRETEATNAILMEQIKLLKNEIRRLERNQEREKSVANLEYLKNVLLQFIFLKPGSE 1631
Equus_caballus    LNGLLRETEATNAILMEQIKLLKSEIRRLERNQEREKSVANLEYLKNVLLQFIFLKPGSE 1635
Bos_taurus        LNGLLRETEATNAILMEQIKLLKSEVRRRLERNQEREKSAANLEYLKNVLLQFIFLKPGSE 1634
Rhinatrema_bivittatum LNGLLHETEATNAILMEQITLLKNEIRRLERNQEREKSVANLEYLKNVLLQFIFLKAGSE 1649
Xenopus_tropicalis MSGLLRETEATNAMLMEQITLLKNEVRRRLERNQEREKSVANLEYLKNVLLQFIFLKAGSE 1817
.....1810.....1820.....1830.....1840.....1850.....1860

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: *****: **::***: : * : :***: .**.:**.******
Pavo_muticus      RERLLPVIDTMLQLSPEEKGKLVAIAQGEESSSRPSGWASYLHSWSGLR 1691
Pavo_cristatus    RERLLPVIDTMLQLSPEEKGKLVAIAQGEESSSRPSGWASYLHSWSGLR 1691
Gallus_gallus     RERLLPVIDTMLQLSPEEKGKLVAIAQGEESSSRPSGWASYLHSWSGLR 1693
Chelonia_mydas    RERLLPVIDTMLQLSPEERGKLVAIAQGEESASRPSGWASYLHSWSGLR 1698
Mus_musculus      RERLLPVIDTMLQLSPEEKGKLATVAQGEESASRSGWASYLHSWSGLR 1680
Rattus_norvegicus RERLLPVIDTMLQLSPEEKGKLATVAQGEESASRSGWASYLHSWSGLR 1681
Homo_sapiens      RERLLPVINTMLQLSPEEKGKLAAVAQGEENASRSGWASYLHSWSGLR 1684
Pan_troglodytes   RERLLPVINTMLQLSPEEKGKLAAVAQGEENASRSGWASYLHSWSGLR 1688
Macaca_mulatta    RERLLPVINTMLQLSPEEKGKLAAIAQGEENASRSGWASYLHSWSGLR 1689
Callithrix_jacchus RERLLPVINTMLQLSPEEKGKLAAIAQGEENASRSGWASYLHSWSGLR 1686
Canis_lupus_familiaris KERLLPVIDTMLQLSPEEKGKLAAIAQGEENASRSGWASYLHSWSGLR 1681
Equus_caballus    RERLLPVIDRMLQLSPEEKGKLAAIAQGEENASRSGWASYLHSWSGLR 1685
Bos_taurus        RARLLPVVDITMLQLSPEEKTRLAAIAQGEESGSRSGWASYLHSWSGLR 1684
Rhinatrema_bivittatum RORLLPVIDITMLHLSPEEKGKLVEITQGEESASRSGWASYLHSWSGLR 1699
Xenopus_tropicalis RORLLPVIDITMLQLSPDEKGKLHAIHGEEDAGSRPAGWSSYLHSWSGLR 1867
.....1870.....1880.....1890.....1900.....1910

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