

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/CNTD4/pep_msa_CNTD4.fasta **Date: Tue Feb 1 11:44:46 2022**

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Species	Sequence	Length
Pavo_muticus	-----	
Pavo_cristatus	-----	
Gallus_gallus	-----	
Chelonia_mydas	-----	
Mus_musculus	-----MAARSPSSSPPPPPVRRSSRRSLRVGRGAEV	31
Rattus_norvegicus	-----MAARSPSSSPPSPLARRSSRRALRVGRGAEV	31
Homo_sapiens	-----MAARSPSPHPSPPARQLGPRSPRVGRGAEV	31
Pan_troglodytes	-----MAARSPSPHPSPPARQLGPRSPRVGRGAEV	31
Macaca_mulatta	-----MAARSPSPYPPPPPARQLGPRSPRVGRGAEV	31
Callithrix_jacchus	MRGSVFRAPGWEEKRGVSKRELDPLAAAAAGRSPPSPPPPPPARQLGPRSPRVGRGAEV	60
Bos_taurus	-----MAARSPSQLPPPPPARHLGPWSPRVGRGAVA	31
Equus_caballus	-----MAARSPSQLPPPPPERRLGPWSPRVGRGAVV	31
Canis_lupus_familiaris	-----MAARSPSQLPPPPPARQLGLWSPRVGRGAVA	31
Latimeria_chalumnae	-----	
Rhinatrema_bivittatum	-----	
Xenopus_tropicalis	-----	
	1.....10.....20.....30.....40.....50.....60	

Species	Sequence	Position
Pavo muticus	MAAGR	5
Pavo cristatus	MAAGR	5
Gallus gallus	MAAGR	5
Chelonia mydas	MASSKRKEPL	10
Mus musculus	HAVRSEASGLAGAAAEVVDKSDLLWRGEEGSGGRRGSGRAGA AVAPVASAPAGSWWPEG	91
Rattus norvegicus	HAVRSEASGLASTAREVVDKSDLLWRGKEGSGGRRGSGRPGAALAPVLSAPVGSWWPVG	91
Homo sapiens	HAMRSEASGFAGAAAEVVADES DKIWVGEEGSGGRRGP GGAAPAHAPLLSAPMGSRRLLEG	91
Pan troglodytes	HAMRSEASGFAGAAAEVVADES DKIWVGEEGSGGRRGP GGAAPAHAPLLSAPMGSRRLLEG	91
Macaca mulatta	HAVRSEASGFAGAAAEVVDKSDKIWLGEEGSGGRRGP GGAAPAHAPLLSAPMGSRRLLEG	91
Callithrix jacchus	HAVRSEASGLAGAAAEVVDKSDI IWLGEKSGRGRGPRGAAPAHGPLLSAPMGSRGLEG	120
Bos taurus	HAVRSETSGPEGAAREGVVDKSDLPWLGEEGSEGQRGPACTAPAQAPLLSAPTGSMRLLEG	91
Equus caballus	HTVSCEATGLAGGAREGVVDKSDISLRGEEGSGGRRGP GRAAPAQAPLLSAPAGSRRLLEG	91
Canis lupus familiaris	HAVRSEASGLASAVREGVVDKNDICWRGEEGSGGRRGP RRAAPAQAPLLSSPAGSKRLEG	91
Latimeria chalumnae	MSSSFGVTI	9
Rhinatrema bivittatum		
Xenopus tropicalis		

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Pavo_muticus	---LEAAASRVAVLEEELRCLAEELSRCQADKEFVSWLWKRLQVSNPDLTQAISLAVERE	62
Pavo_cristatus	---LEAAASRVAVLEEELRCLAEELSRCQADKEFVSWLWKRLQVSNPDLTQAISLAVERE	62
Gallus_gallus	---LEAAASRVAVLEEELRCLAEELSRCQADKEFVSWLWKRLQVSNPDLTQAISLAVERE	62
Chelonia_mydas	PAAAAAASRVLEEEELSLAEELSQCQADKEFVSWLWKRLQVANPDLTQAVSLVVRE	70
Mus_musculus	LSEEAATRSQILLEELSSLKEELALCQADKEFVSWLRRLQATNPDLTQTIVSLVVRE	151
Rattus_norvegicus	LSSVEAKATRSQILLEELSSVKEELAQCQADKEFVSWLWKRLQATNPDLTQTIVSLVVRE	151
Homo_sapiens	ISVEEAMVTRTQLLEEELSSLKEELALCQADKEFVSWLWKRLQVTNPDLTQVVSLLVRE	151
Pan_troglodytes	ISVEEAMVTRTQLLEEELSSLKEELALCQADKEFVSWLWKRLQVTNPDLTQVVSLLVRE	151
Macaca_mulatta	ISVEEAMVTRTQLLEEELSSLKEELALCQADKEFVSWLWKRLQVTNPDLTQVVSLLVRE	151
Callithrix_jacchus	ISVEEAMVTRTQLLEEELSSLKEELALCQADKEFVSWLWKRLQVTNPDLTQVVSLLVRE	180
Bos_taurus	ISVEEAMVTRTQLLEEELSSVKEELALCQADKEFVSWLWKRLQVTNPDTVTAIVSLVVRE	151
Equus_caballus	ISVEEAMVTRTQILLEDELSSLKEELALCQADKEFVSWLWKRLQVTHPDLTQAVSLVVRE	151
Canis_lupus_familiaris	ISVEEAMVTRTQLLEEELSSLKEELALCQADKEFVSWLWKRLQVTNPDTVTAIVSLVVRE	151
Latimeria_chalumnae	MASKGGQNRIQLLEEVEGNLSSEELAQCQADKEFVSWLWKRLQVANPDLTQAISLVVRE	69
Rhinatrema_bivittatum	MAAKODDKAHT-LLEEVENLKEELAQCQADKEFVSWLWKRLQVANPDLTQAISLVVRE	59
Xenopus_tropicalis	MAAKKNYQEIRKLEEFVEHLNEELSQCQADKEFVSWLWKRLQVANPDITQAVGLVVDRE	60
130.....140.....150.....160.....170.....180	

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File: /media/morpheus/disk1/fst/pep_msa/CNTD_Nep1 Tue Feb 1 11:44:46 2022

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* *: * ****:****:.*. .: .*:      *: *: : * ****      *: *: :.
Pavo_muticus      KQKAEVKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 122
Pavo_cristatus    KQKAEVKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 122
Gallus_gallus     KQKAEVKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 122
Chelonia_mydas    KQKTEVKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 130
Mus_musculus      KQKSEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 211
Rattus_norvegicus KQKSEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 211
Homo_sapiens      KQKSEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 211
Pan_troglodytes   KQKSEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 211
Macaca_mulatta    KQKSEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 211
Callithrix_jacchus KQKSEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 240
Bos_taurus        KRKSEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 211
Equus_caballus    KQKSEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 211
Canis_lupus_familiaris KQKSEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 211
Latimeria_chalumnae KQKAEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 129
Rhinatrema_bivittatum KHKAEAKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 119
Xenopus_tropicalis KSKAESKDRKILEILQAKDSEIEILEQRLSGQQQEIINNLIQRKIAVDEENACLKNEFSNL 120
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      KQKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 182
Pavo_cristatus    KQKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 182
Gallus_gallus     KQKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 182
Chelonia_mydas    QQKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 190
Mus_musculus      QKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 271
Rattus_norvegicus QKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 271
Homo_sapiens      EKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 271
Pan_troglodytes   EKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 271
Macaca_mulatta    EKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 271
Callithrix_jacchus EKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 300
Bos_taurus        QKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 271
Equus_caballus    QKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 271
Canis_lupus_familiaris QKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 271
Latimeria_chalumnae QKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 189
Rhinatrema_bivittatum QKKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 179
Xenopus_tropicalis HEKFKDKSQELKDTTECAQKKEEQNRLVIKSLEENKGLNACCADLLNDLEKLKQEQVQW 180
.....250.....260.....270.....280.....290.....300

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Pavo_muticus      KAEKSGSDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 242
Pavo_cristatus    KAEKSGSDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 242
Gallus_gallus     KAEKSGSDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 242
Chelonia_mydas    RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 250
Mus_musculus      RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 331
Rattus_norvegicus RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 331
Homo_sapiens      RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 331
Pan_troglodytes   RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 331
Macaca_mulatta    RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 331
Callithrix_jacchus RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 360
Bos_taurus        RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 331
Equus_caballus    RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 331
Canis_lupus_familiaris RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 331
Latimeria_chalumnae RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 249
Rhinatrema_bivittatum RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 239
Xenopus_tropicalis RIEKSGVDARIKMLETNTDAREQLKELSSKCSNLSSQLAVNQKELSQKECDMNRTKKEL 240
.....310.....320.....330.....340.....350.....360

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/CNTD4/pep_msa_CNTD4.fasta Tue Feb 1 11:44:46 2022

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*:***:* * : ***:***:***.* **:**:***.* *:***
HELONLYKQHIAHTAQQAAQLIQQLQTLNSTDQKVLKEQEDVHTTTETISYQ-----292
HELONLYKQHIAHAAQQAAQLIQQLQTLNSTDQKVLKEQEDVHTTTETISYQ-----292
QELONLYKQNIATHTTQQAQLIHQLQTLNSTDQKVLKEQEDVHTTTETISYQ-----292
RELONLYKQNTHTTAQQAAELIQQLQALNMDTQKVLNRQEDAHATAETISYQ-----300
QELNVYKQNSAHTAQQADLIQQLQALNMDTQKVLNRQEDVHTAESMSYQ-----381
QELONLYKQNSAHTAQQADLIQQLQVLNMDTQKVLNRQEDAHATAESITYQ-----381
QELONLYKQNSTHTAQQAAELIQQLQVLNMDTQKVLNRQEDVHTAESISYQ-----381
QELONLYKQNSTHTAQQAAELIQQLQVLNMDTQKVLNRQEDVHTAESISYQ-----381
QELONLYKQNSTHTAQQAAELIQQLQVLNMDTQKVLNRQEDVHTAESISYQ-----381
QELONLYKQNSTHTAQQAAELIQQLQVLNMDTQKALNRQEDVHTAESISYQ-----410
QELONLYKQNSAHTAQQAAELIQQLQVLNMDTQKVLNRQEDVHTAESISYQ-----381
QELONLYKQNSAHTAQQAAELIQQLQVLNMDTQKVLNRQEDVHIAESISYQ-----381
QELONLYKQNSVHTAQQAAELIQQLQVLNMDTQKVLNRQEDVHTAESISYQKIDVYQLWKQ391
QELONLYRQSTEHASQQAAELIQQLQALNVDTHKVLNRQEDAHVTETISYQ-----299
QEMONLYKQSNHAVQQAAELIQQLQALNMDTQKVLNRQEDAHATAETISYQ-----289
QELONLYKQSNHASQQAAELIQQLQALNLDTHKVLNRQEDAHATTETISYQ-----290
.....370.....380.....390.....400.....410.....420

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      :***:*  *::  *: *  ***  *  ::  *: .  *::*: :  :
-----KLYNELTLCFOTLKTNEIQLOQGYASLQDELLGKDKICQLQEQLQAHDALN  345
-----KLYNELTLCFOTLKTNEIQLOQGYASLQDELLGKDKICQLQEQLQAHDALN  345
-----KLYNELTLCFETLKTNEIQLOQRYTSLQDQLLGKDEKICQLQEQLQAHDALN  345
-----KLYNELTLCFETLTKAREIQLQSHASLQGLLEKEQENKWLFEQLQAREALH  353
-----KLYNELHMCFFETTKSNEVMLRQSVVNLQGLFQKEQENVKLKEKLEESQGTAP  434
-----ELYNELHICFETTKSNEAMLQQRVANLQHOLFQKEQENVKLKEKLOESQGTLG  434
-----KLYNELHICFETTKSNEAMLRQSVTNLQDQLLOKEQENAKLKEKLOESQGAPL  434
-----KLYNELHICFETTKSNEAMLRQSVINLQDQLLOKEQENAKLKEKLOESEGAPL  434
-----KLYNELHTCFETTKSNEAMLRQSVVNLQDQLLOKEQENAKLKEKLOESQGAPH  434
-----KLYNELHICFETTKSNEAMLRQSVINLQDQLFQKEQENAKLKEKLOESQGAPH  463
-----KLYNELHICFETTKSSEAMLRQSVVTLQDQLFQKEQENAKLKEKLOQSQETLY  434
-----KLYNELHICFETTKSSEAMLRQSVVSLQDQLFQKEQENAKLKENLQGSQGAPY  434
HWTLPGIKLYNELHICFETTKSSEAMLRQNVVSLQDQLFQKELENVKLKEKLOESHGAPY  451
-----KLYNDLNMCYEALKSSSEAQLRQSTISLTSQIYQKEQQISELQFKLQALVTSQ  352
-----KLYNDLNMCYETLKSSEAQLRQGHISLTDVQLQKEQHISQLQGNLQKALDALH  342
-----KLYNDLNCYDMAKSSSEAQLRQSNIALTDQIHQKEQQISQLQVKLQBALP  343
.....430.....440.....450.....460.....470.....480

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      :           :           *: :: ** **: *:*** :. ::
-VLHQNSS--RDLEQFQPPSLGELECLITMOKSEIELLKEKLKKANLNLVEHNLVTTDTL    402
-VLHQNSS--RDLEQFQPPSLGELECLITMOKSEIELLKEKLKKANLNLVEHNLVTTDTL    402
-MLHQNSS--CDLEQFQPPSLGELECLITMOKSEIELLKEKLKKASNLNLVEHNLVTTDTL    402
-PVHQSDSHPKHREQFQPPSLNELECLIASQKFEIFLOEKLKTANLNLAEHSFCSTDIL    412
SLSPHSDSDSHSGKAP----LSTLETLMISQKSEIEYLOKKLKVANEKLMANRSCDQDFS    490
-LSPHESDSNHSAPKAP----LSSLETLMISQKSEIEYLOKKLKVANEKLMENRSCDQELS    489
-PLPOESDPDYSAQVPHRPSLSSLETLMVSQKSEIEYLOEKLKIANEKLSENISANKGFS    493
-PLPOESDPDYSAQVPHRPSLSSLETLMVSQKSEIEYLOEKLKIANEKLSENISANKGFS    493
-PLSQESDPDYSAQVPHYRPSLSSLETLMVSQKSEIEYLOEKLKIANEKLSENIPPSKVFS    493
-PLPOENDSDYSVOVPHCPSSLSSLETLMVSQKSEIEYLOEKLKIANKLSLENISANKAFS    522
-PLPRECDSDRSEQVVSQPPSLSSLETLMVSQKSEIEYLOEKLKIANEKLSENIRSTNKGSS    493
-PYPOENDSDHSEQISQRPSLSSLETLMVSQKSEIEYLOEKLKIANEKLSENIRSTNNGSS    493
-LLPOESDSEHSEQVVSQRPSLSSLETLMVSQKSEIEYLOEKLKIANEKLSEKSTNKGSL    510
-PSTOOTNAKYFEQELQHESSIDLHLITAQKSEIKLLKDKLKAANLKLAEFRNGSSVLS    411
-QSPQTADSEHLKQECQSSFVDLELMIDQKSEIKLLOEKLKLANLKIQEIN--AFNG    398
-KSPQEP-----QDCEHPSLVELELIISQKSEIKFLQDKLKTDTLQLTRVNNCGADAL    396
.....490.....500.....510.....520.....530.....540

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      :                               *.***** *   **   *   *: *   :
Pavo_muticus      KTS-NIRTTGRKHE-----EPPVKRSRSLSPKSSFRKSE---EVRKLKIAERKTE 447
Pavo_cristatus    KTS-NIRTTGRKHE-----EPPVKRSRSLSPKSSFRKSE---EVRKLKIAERKTE 447
Gallus_gallus     KTS-NLRSGRKHE-----EPPVKRSRSLSPKSSFRKSEETQETDELRAAHEKRRK 450
Chelonia_mydas    ESK-NIKSGRKHK-----EPPVKRSRSLSPKSSFRESE---ELRKLKIAEKKIE 457
Mus_musculus      EK----GTEGKHK-----EPPVKRSRSLSPKSSFMGSE---ELRKLKKAERKIE 532
Rattus_norvegicus EK----GTEGKRTTVQPCPCFILEEPPVKRSRSLSPKSCFMDSE---ELRKLKKAERKIQ 542
Homo_sapiens      RKSIMTSAEGKHK-----EPPVKRSRSLSPKSSFTDSE---ELQKLKAERKIE 539
Pan_troglodytes   RKSIMTSAEGKHK-----EPPVKRSRSLSPKSSFTDSE---ELRKLKAERKIE 539
Macaca_mulatta    EKSIMTSAEGKHK-----EPPVKRSRSLSPKSSFTDSE---ELRKLKAERKIE 539
Callithrix_jacchus EKSIRTSAEGKHK-----EPPVKRSRSLSPKSSFTDSE---ELRKLKAERKIE 568
Bos_taurus        EKSILTSIEGKHK-----EPPVKRSRSLSPKSSFDSE---ELKKLKAERKIE 539
Equus_caballus    EKSILTSADGKHK-----EPPVKRSRSLSPKSSFTDSE---ELRKLKAERKIE 539
Canis_lupus_familiaris ENSIWTSTEGKHK-----EPPVKRSRSLSPKSSFTDSE---ELRNLKAERKIE 556
Latimeria_chalumnae EHK-ILRTGRDCQ-----EPPVKRSRSLSPKSSFRGSE---EFRKLHVAAEAMVK 456
Rhinatrema_bivittatum DMF-VPRAGKGQE-----EPPVKRSRSLSPKSSFRESE---EQRKLKIAERKNE 443
Xenopus_tropicalis ESS-ILRAGRKHE-----VQPAKRSRSLSPKGSFKESE---ELKKLKAIAEKRIE 441
      .....550.....560.....570.....580.....590.....600

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      .   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :   :
Pavo_muticus      NLEKTLKLKVN-----IKKQTSKQKKS-LKNRTASSKGRYQ 482
Pavo_cristatus    NLEKTLKLKVN-----IKKQTSKQKKS-LKNRTASSKGRYQ 482
Gallus_gallus     ERLQMLQTNYS-----ALKEQLKWEE-GDSRTASSRCRYQ 485
Chelonia_mydas    NLEKTLQLKTQENDELRAHEKRKERLQMLQTNYRAVKEQLKWEEGYSNRTENTKSKHQ 517
Mus_musculus      NLEKTLQLKSQENDELDAHEKRKERLQMLHTNYRAVKEQLKWEE---DSGMAESROMK 589
Rattus_norvegicus NLEKTLQLKSQENDELDAHEKRKERLQMLHTNYKAVREQLKWEE---DSGMTETTRPK 599
Homo_sapiens      NLEKALQLKSQENDELDAHEKRKERLQMLQTNYRAVKEQLKWEE---GSGMTEIRKIK 596
Pan_troglodytes   NLEKALQLKSQENDELDAHEKRKERLQMLQTNYRAVKEQLKWEE---GSGMTEIRKIK 596
Macaca_mulatta    NLEKALQLKSQENDELDAHEKRKERLQMLQTNYRAVKEQLKWEE---GSGMTEIRKIK 596
Callithrix_jacchus NLEKALQLKNQENDELDAHEKRKERLQMLQTNYRAVKEQLKWEE---GSGMTEIRKIK 625
Bos_taurus        NLEKALQLKNQENDELDAHEKRKERLQMLQTNYRAVKEQLKWEE---GSGMTEIRKIK 596
Equus_caballus    NLEKALQLKSQENDELDAHEKRKERLQMLQTNYRAVKEQLKWEE---GSGMTEIRKIK 596
Canis_lupus_familiaris NLEKALQLKSQENDELDAHEKHKERLQMLQTNYRAVKEQLKWEE---GSGMTHARRIK 613
Latimeria_chalumnae NLEKLVLKSQENDELRAHEKRKERLQMLQTNYRTVKEQLKEEEDRYGKNKSSKIRSQ 516
Rhinatrema_bivittatum HLEKTVQLKIQENVELKKAHENRKERLQMLQTNYRTVKQQLKQLEEG-CIRVKSNGGOHQ 502
Xenopus_tropicalis HLEKALQIKMQENAEIRKAHERRRERLLTLOSNYREVKQOIEQSEFY--ARGKENKKRNQ 499
      .....610.....620.....630.....640.....650.....660

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      **: .   : *   : **   *****. ** : : : *   : *   : * : : : :
Pavo_muticus      RADACQLCQEDFAAVWNELAFFKREHKLLIEKLDLEEEELDQVKVHQS 531
Pavo_cristatus    RADACQLCQEDFAAVWNELAFFKREHKLLIEKLDLEEEELDQVKVHQS 531
Gallus_gallus     RADACQLCQEDFAAVWNELAFFKREHKLLIEKLDLEEEELDQMKVHQS 534
Chelonia_mydas    RADPHQLRQEDSDAVWNELAYFKREHKLLIEKLDLEEEELDQMKVCRSMDKATIQELNLC 577
Mus_musculus      RAEPHQLRQEDSDAVWNELAYFKRENQELMVQKMTLQDELDELKMHSIDKTTIQELNRC 649
Rattus_norvegicus RADPQQLRQEDSDAVWNELAYFKRENQELMVQKMTLQDELDELKIYMTIDKTTIQELNRC 659
Homo_sapiens      RADPQQLRQEDSDAVWNELAYFKRENQELMIQKMNLEEEELDDELKVHISIDKAAIQELNRC 656
Pan_troglodytes   RADPQQLRQEDSDAVWNELAYFKRENQELMIQKMNLEEEELDDELKVHICIDKAAIQELNRC 656
Macaca_mulatta    RADPQQLRQEDSDAVWNELAYFKRENQELMIQKMNLEEEELDDELKVHISIDKEAIQELNRC 656
Callithrix_jacchus RADPQQLRQEDSDAVWNELAYFKRENQELMIQKMNLEEEELDDELKVHISIDKAAIQELNRC 685
Bos_taurus        RADPQQLRQEDSDAVWNELAYFKRENQELMIQKMHLEELDDELKVHMSVDKATIQELNTF 656
Equus_caballus    RADPQQLRQEDSGAVWNELAYFKRENQELIIQKMNLEELDDELKVQISLQKATIQELNTR 656
Canis_lupus_familiaris RANPEQLRQEDSDAVWNELAYFKRENQELMIQKMNLEELDDELKVHISIDKAKIQELNTC 673
Latimeria_chalumnae RAEPWQLRQEDSDAVWNELAYFKQEHKKLLIEKMNLEEEELDQLRVSAVIDKATIQELNLC 576
Rhinatrema_bivittatum RAEPWQLRQEDSDAVWNELAFFKREHKLLIEKLDLEEEELDQKQVVVSMDKATIQELNAC 562
Xenopus_tropicalis RADPQLRHEDSDAVWNELAHFKRONKKLHVEKMNLEEEELDQIKVQASADKVAIQELNEC 559
      .....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/CNTD_Nep1 Tue Feb 1 11:44:46 2022

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      * *      : :      * : * .      : : *      * :      * :      .
Pavo_muticus      -----ELLFKLS EDDWVKNSTPKKNVEGSSDRLQKVEQLERRCKTIERAIRKQKEINK 585
Pavo_cristatus    -----ELLFKLS EDDWVKNSTPKKNVEGSSDRLQKVEQLERRCKTIERAIRKQKEINK 585
Gallus_gallus     -----ELLFKLS EDDGLKNSTPKKNMEASDERLQKVEQLERRCKTIERAIRKQKEINK 588
Chelonia_mydas    LQQEREELLFRLGEDDGVKNSTPKKNVKEISDOTLQKVCQLEKRFALEREKSKLKEVKN 637
Mus_musculus      MAEKREEQLFRQHEDA EVKSTPEKNEKAISEETLQKVIELENRLKSFEKNSRKLKEESK 709
Rattus_norvegicus MAEKREEQLFRHHEDAGVKKSTPEKNEKAISEQTLEKVIENRLKSFEKNSRKLKEESK 719
Homo_sapiens      VAERREEQLFRSGEDDEVKSTPEKNGKEMLEQTLQKVTLENRLKSFEKRSRKLKEGKN 716
Pan_troglodytes   VAERREEQLFRSGEDDEVKSTPEKNGKEMLEQTLQKVTLENRLKSFEKRSRKLKEGKN 716
Macaca_mulatta    VAERREEQLFRSGEDDEVKSTPEKNGKEMLEQTLQKVTLENRLKSFEKRSRKLKEGKN 716
Callithrix_jacchus MAERREEQLFRSGEDDEVKSTPEKNGKEMLEQTLQKVTLENRLKSFEKRSRKLKEGKN 745
Bos_taurus        MAERREEQLFRHDEDDGVKKSTPEKNWKEMSEQTLQKVTLENRLKSFEKRSRKLKEGKN 716
Equus_caballus    LAEKREEQLFRYGEDDGVKKSTPEKNEKEMLEQTLQKVTLENRVKSFETRSLKLKEGKN 716
Canis_lupus_familiaris MAEKREEQLCRNDEDDGVKKSTPEKNGKEMSEQTLQKVVELENRLQSFEGKSRKLKEGKN 733
Latimeria_chalumnae LQHEREELLFRLGEDDAVKSSTPKKNKGEKSDKSLQKISDLERKLKVIEKEVKKLREVNA 636
Rhinatrema_bivittatum LQQEREELLFRLGEDDGVNSTPKKS VKETLDTMQVSHLERKLSNVERE EVKLKEENE 622
Xenopus_tropicalis LQQEREELLYILAKEEETVSTPKKNKDEVLLQALHKANRLERLCGLEAEVTKLKGINE 619
.....730.....740.....750.....760.....770.....780

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      * : : * : :      * : : : :      .      . * :      :      * :
Pavo_muticus      DLLKEKNDLKASLKLEKEDADTRERELEKLLKRICEIKKDNALQLVIDDWEKEAASLKR 645
Pavo_cristatus    DLLKEKNDLKASLKLEKEDADTRERELEKLLKRICEIKKDNALQLVIDDWEKEAASLKR 645
Gallus_gallus     DLLKEKNDLKASLKLEKEDADTRERELEKLLSRICEIKKDNALQLVIDDREKEAASLKR 648
Chelonia_mydas    QLTAKDKNDLKASIKCHKEDADTKERELEKLLKFKFREIKKDKADLQLVIDELEREVTSLKR 697
Mus_musculus      RLKKENDFLKSHLKHQYQEDSEAREKELEQLLRVSKDVEHDKSELOTKITALETEVTTLRR 769
Rattus_norvegicus KLKKENDFLKSHLKHQYQEDSEARGKELEKLLRVSSVEQDKSELOTKITALETEVTTLRR 779
Homo_sapiens      KLMKENDFLKSLLKQQQEDTETREKELEQIIKGSKDVEKENTELQVKISELETEVTSLRR 776
Pan_troglodytes   KLMKENDFLKSLLKQQQEDTETREKELEQIIKGSKDVEKENTELQVKISELETEVTSLRR 776
Macaca_mulatta    KLMKENDFLKSLLKQQQEDTETREKELEQIIKGSKDVEKENTELQVKISELETEVTSLRR 776
Callithrix_jacchus KLMKENDFLKSRLKQQQEDTEAREKELEQIIKGSKDVEKVNTLQVKISELEREVTSLRR 805
Bos_taurus        NLIKENDFLKSLVKEQQEDAKTREKELEQLKKGSKGVEKDKAKLEAKISELETEVTSLRR 776
Equus_caballus    KLIKENDFLKSLIRQQQEDAVAREKELEQLQNESKDVEKDKTELQVKISELEREVTSLRR 776
Canis_lupus_familiaris KLMKENDFLKSLLKQQQEDAE DRGKELEQLQKGSKEVKDKAELQVKISELEREVTSLRR 793
Latimeria_chalumnae ELTKDKSSLKASLSRLNDAREKEWDELLKETREVKREKAELOAMDELEIEVTSLKR 696
Rhinatrema_bivittatum ELAKDKSLRQSLKRLAKDSETKEQELELLKKNOEAKNTIAELELMTDELKRDITS LKR 682
Xenopus_tropicalis ELIAEKDSLKLLVTSLOIDADSKERKVKLKTENIEAYEVREKLEMKNAELIYEITS LKI 679
.....790.....800.....810.....820.....830.....840

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      : : : * : : : : :      : :      .      : :      *      * : : *
Pavo_muticus      QVAEANRLRNENEDLLSQVKELTCLLGEAKAAATS-----GQCNCKITGTVKVFKA 698
Pavo_cristatus    QVAEANRLRNENEDLLSQVKELTCLLGEAKAAATS-----GQCNCKITGTVKVFKA 698
Gallus_gallus     QVAEANRLRNENEDLLSQVEELTCLLGEAKAAATS-----GQCNCKITGTVKVLKAA 701
Chelonia_mydas    QVAEANRLRNEKEDLVCEVQOLKNSLDKAKAVATMATVGATGGQCNCKITAGTVKVLKTTK 757
Mus_musculus      QVTEAKALRGKDEEVVCPPEERHRPTDKAKSEMATTDVRAAR--RCDCKTATTVKVFKA 827
Rattus_norvegicus QVAKAKALRDENE EVVNPEEKEHCPTDKAKSEMATTDVRAQ--HCDCKTATTVKVFKA 837
Homo_sapiens      QVAEANALRNENEELINPMEKSHQSADRAKSEMATMKVRSG--RYDCKTMTTVKVFKA 834
Pan_troglodytes   QVAEANALRNENEELINPMEKSHQSADKAKSEMATMEVRSG--RYDCKTMTTVKVFKA 834
Macaca_mulatta    QVAEANALRNENEELINPMEKSHQSADKAKSETATTKVRSG--RYDCKTMTTVKVFKA 834
Callithrix_jacchus QVTEANALRNENEELMSPMEKSKQSADKAKSEMATTEVRSG--RYDCKTMTTVKVFKA 863
Bos_taurus        QVAEANELRNENEELMNSVEKLQHSADKAKSEMATTEARS GSGQSECKTMTTVKVFKTAK 836
Equus_caballus    QVAEANGLRNENEELMNSMEKLQHSADKVKSEMTTTKMRSG--QYDCKTMTTVKVLKAA 834
Canis_lupus_familiaris QVAEANGLRNENEELMNSIEKLEHSADKAKSEMATTEARS G--QYDCKTMTTVKVFKA 851
Latimeria_chalumnae QVADANELRNEREELLRQVERLQALDEARAAATEATKGMSCGQCCKSTGTVKVLKTSK 756
Rhinatrema_bivittatum QVAEANHLRNDNEWLLRQVONLQMLLDEAKKVTA VSTGILNYGQCNCKITN--KVKLKT 740
Xenopus_tropicalis LLEEGNKLOSENODLIRQIENLQRALDOVRTVPVLATRELNSRGRSKKHVNVKVKQRAVK 739
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/CNTD_Nep1 Tue Feb 1 11:44:46 2022

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:      :      :      :      :      :      :      :      :      :      :      :      :      :      :      :
Pavo_muticus      KKSSLGHHGAFLKQSIKVMNSNVFENFRKDGWEDVSESS-DSEIPAPESLEAVTMKIVQDI      757
Pavo_cristatus    KKSSLGHHGAFLKQSIKVMNSNVFENFKDGDWEDVSESS-DSEIPAPESLEAVTMKIVQDI      757
Gallus_gallus     KKSSLGHHGAFLKQSIKVMNSNVFENFKDGDWEDVSESS-DSEIPAPESLEAVTMKIVQDI      760
Chelonia_mydas    KKSSLGRRHQAFLNQSIKVMNSNVFENFNKDGWEDMSESS-DSEIPTSESLSGVIMKIVQNV      816
Mus_musculus      RKCSVGRHHTVLNHSIKVMS-HVENLSKDGWEDVSEGS-DSETQTFQNLGTIIVETSQNI      885
Rattus_norvegicus KKCSVGRHHTVLNHSVVKVMS-HVENLSKDGWEDMSEGSDDSETQTFQNLGTIVIVETSQNI      896
Homo_sapiens      KNCVSVGRHHTVLNHSIKVMSNVFENLSKDGWEDVSESSSDSEAQTSQTLGTIIVETSQKI      894
Pan_troglodytes   KNCVSVGRHHTVLNHSIKVMSNVFENLSKDGWEDVSESSSDSEAQTSQTLGTIIVETSQKI      894
Macaca_mulatta    KNCVSVGRHHTVLNHSIKVMSNVFENLSKDGWEDVSESSSDSEAQTSQTLGTIIVETSQKI      894
Callithrix_jacchus KNCVSVGRHHTVLNHSIKVMSNVFENLSKDGWEDVSESSSDSEAQTSQTLGTIIVETSQKI      923
Bos_taurus        KKCSVGRYHTVLNHSIKVMSNVFENLSKDDWEDVSESS-DSETQNLRLNLTIIIVETSQKI      895
Equus_caballus    KKCSVGRYHTVLNHSIKVMSNVFENLNKDGWEDVSESSSDSETQTSQNLGTIIVETSQKI      894
Canis_lupus_familiaris KKCSVGRYHTVLNHSIKVMSNVFENLSKDGWEDVSESSSDSEAQTSQTLGTIIVETSQKI      911
Latimeria_chalumnae KKSSLGHHGAFLNQSIIKEMSTVFENFNKDGWEDMSGDS-DPSETTSESLSGELIVKSANNH      815
Rhinatrema_bivittatum KMNSLKCHQAFLNQSIIKAMRNVFENFSKDGWEDMSEGS-DSEITDPESLSGELIVKASEGR      799
Xenopus_tropicalis KIS-LRRHQAFLNQSIIKVMSSVFENFSRDGWEDVIEDS-DSESQTLGSEKEGIVKTAKSE      797
.....910.....920.....930.....940.....950.....960

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:      :      :      :      :      :      :      :      :      :      :      :      :      :      :      :
Pavo_muticus      DLLPDRNKQGGKKQIQDGKKPCN-TAHLEGKSQCYKKKSHSQKKDLEKLQSKRRRIHCVI      816
Pavo_cristatus    DLLPDRNKQGGKKQIQDGKKPCN-TAHLEGKSQCYKKKSHSQKKDLEKLQSKRRRIHCVI      816
Gallus_gallus     DLLPNRNKQGGKKQIQDGKKPCN-TAHLEGKSQCYKKKNHSQKKDIE---KRRKIHCVI      815
Chelonia_mydas    DSLRDTNDQGEKYQIQANQMVHN-IAHLQDKSRLYHKKGNQNKDIEKSHSQRRKISPFPI      875
Mus_musculus      SPIEDGRNQKEIDQTEGSCAQQR-AMQTYSCEDIKAPQSISHNKNTKKMTFOKKSGSLOK      944
Rattus_norvegicus RPIENDGNQKETDQTESRAQQ--EVQTYSCEDLKAPQ-----NTKKMTFQNKSGSLOK      948
Homo_sapiens      SPTEDGKDQKESDPTEDSQTQKEIVQTYLNIDGKTPKDYFHDKNACKPTFOKKNCKMQK      954
Pan_troglodytes   SPTEDGKDQKESDPTEDSQTQKEIVQTYLNIDGKTPKDYFHDKNACKPTFOKKNCKMQK      954
Macaca_mulatta    SPTEDGKDQKESDPTEDSQTQKEIVQTYLNIDGKTPKDYFHDKNACKPTFOKKNCKMQK      954
Callithrix_jacchus SPTEDGKDQKESDPTEDSQTQKEIVQTYLNIDGKTPKDYFHDKNACKPTFOKKNCKMQK      983
Bos_taurus        SPTEDRRDQKERDQTESQMOGKEIVQIYPNVEDKTPKNYFH-KNAKKSALQKKNSSIQK      954
Equus_caballus    SPIEDGRDQKESDQTSQIQKEIVQIYSNIDGKTPKDYQY-KNAKKTPTFOKKNDNIQK      953
Canis_lupus_familiaris SPIEDGRHQKESDQTESQMOGKDMVQIYSNTDGKTPKNYFHYKNAKKSPTFOKKNGNIQK      971
Latimeria_chalumnae LSLPEGDDENRENVRPSFP-----CARKNQLQKAEGLQEKRPASRKRTCLNSD      866
Rhinatrema_bivittatum DAILEG---NTDDKIEQKV-----ISEERTPLQHMKNTPQDKMEQTQKKCDPP      847
Xenopus_tropicalis NLCMDYTNSADENTCSFYTHSG-----CEDASDELTYGQNYLHESAACKRNITKCT      850
.....970.....980.....990.....1000.....1010.....1020

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:      :      :      :      :      :      :      :      :      :      :      :      :      :      :      :
Pavo_muticus      TAYPSFLRKVSRTKSRNIVFQKQGYSVTLLOETIKSLQQQIGVLLSEKKTAVSSVKEFKE      876
Pavo_cristatus    TAYPSFLRKVSRTKSRNIVFQKQGYSVTLLOETIKSLQQQIGVLLSEKKTAVSSVKEFKE      876
Gallus_gallus     TAYPSFLRKVSRTKSRNTIFQNGQYSVTLLQETIKSLQQQIGVLLNEKKTAVSSVKEFKE      875
Chelonia_mydas    TAHPSVINKVNREKRRNIVIQKLGCSV-LLRERIKSLKQCIQAVLQAKRTAVSSVKEFKE      934
Mus_musculus      SLHSALPARVNREKCKNLPAQKSSSSTISLRERIVSLQQQNSLLQARRAAEASAKEFKE      1004
Rattus_norvegicus NLHSALPARVNREKCKTKPAQKSSSNTILLRERIVSLQQQNSLLQARRAAEASAKEFKE      1008
Homo_sapiens      SSHTAVPTRVNREKYKNITAQKSSSNIILLRERIIISLQQQNSVLQNAKKTAEKTSVKEYKE      1014
Pan_troglodytes   SSHTAVPTRVNREKYKNITAQKSSSNIIFLRERIIISLQQQNSVLQNAKKTAEKTSVKEYKE      1014
Macaca_mulatta    SSHTAVPTRVNREKYKNITAQKSSSNVILLRERIIISLQQQNSVLQNAKKTAEKTSVKEYKE      1014
Callithrix_jacchus NSHTAVPTRANREKYKNITAQKSTSNILLRERIIISLQQQNSVLQNAKKTAEKTSVKEYKE      1043
Bos_taurus        TSHTAGPTRVNREKWKNTAQKSSSNVILLRERIIISLQQQNSVLLNAKKAELAVKEYKE      1014
Equus_caballus    SSHTTLPTRVNREKWKNTAQKSSSIIILLRERIIISLQQQNSVLQNAKKTAEKTSVKEYKE      1013
Canis_lupus_familiaris SSHTTVPTRVNREKWKNTAQKSSSNIILLRERIVSLQQQNSVLQNAKKTAEKTSVKEYKE      1031
Latimeria_chalumnae LKLPVLFTKGCNRRNRIVQKRGHTVGALQQRIVCLQQHTALQNGKRIALTATKELKE      926
Rhinatrema_bivittatum MIIHSLTNSKASREKKKSVQ-RGSSLSLRERINSLOQQVAVLQNGRRAAASTKELKK      906
Xenopus_tropicalis RLHPPAVKSGHREKRNKILAYRHISVSSLRQVAVSLQHVSLQKQKQAASACADELKK      910
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/CNTPeptide.fasta Tue Feb 1 11:44:46 2022

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      : ** : . :*: : * : : : :*: :*: * . .
Pavo_muticus      TNEKLTTLRLADQRLQSSKLTIQVLTSLNAKWQEKEDLQGLKLREHLS--QTAGKS-- 933
Pavo_cristatus    TNEKLTTLRLADQRLQSSKLTIQVLTSLNAKWQEKEDLQGLKLREHLS--QTAGKS-- 933
Gallus_gallus     TNEKLTTLRLADQRLQSSKLTIQVLTSLNAKWQEKEDLQGLKLREHLS--QTAGKS-- 932
Chelonia_mydas    ANEKLTSQHLADQRLQTSRRTIQTLTSLAELQREREDLQGLKLEHLAQATRLKEGSPS-- 992
Mus_musculus      ANEKLHLLHQVVSDHRFQTSRQTIKKLTLDLAELRKEKEDLLKKVSESSDITSLAEVVS-- 1062
Rattus_norvegicus ANEKLHLLHQVVISDHRFQTSRQTIKKLTLDLAELRKEKEDLLKKVSESSDITSLAEVVS-- 1066
Homo_sapiens      VNEKLLHQVVSDQRFQTSRQTIKKLNLDLAGLRKEKEDLLKKLESSEITSLAEENS-- 1072
Pan_troglodytes   VNEKLLHQVVSDQRFQTSRQTIKKLNLDLAGLRKEKEDLLKKLESSEITSLAEENS-- 1072
Macaca_mulatta    VNEKLLHQVVSDQRFQTSRQTIKKLNLDLAGLRKEKEDLLKKLESSEITSLAEVVS-- 1072
Callithrix_jacchus VNEKLLHQVVSDQRFQTSRQTIKKLNLDLAGLRKEKEDLLKKLESSEITSLAEVVS-- 1101
Bos_taurus        VNEKLLHQVVSDQRFQTSRQTIKKLNLDLAELQEKEDLLKRVSESSSEITCLTEEVA-- 1072
Equus_caballus    VNEKLLHQVVASDQRFQTSRQTIKKLNLDLAELRKEKEDLLKKLESSEITSLTEEVS-- 1071
Canis_lupus_familiaris INEKLHQVVSDQRYQISRTQTIKKLNLDLSGLRKEKEDLLKKLESSEITSLAEVVS-- 1089
Latimeria_chalumnae TNKKLTSQLNLNQLRLNISQVAQRLTSDLAEFQREELERQLDQMKELTQATRSAAE 986
Rhinatrema_bivittatum SNSKLASELQLANQLRLQISQMAQKVTSDLAQCEHEKEDLRAADQMRQLTKVTESIEG 966
Xenopus_tropicalis EKIKLTAEHLHAQQLRLQISQMAKKLSAELTELHRRERYLERSAQMKELQNLAKRSSET 970
.....1090.....1100.....1110.....1120.....1130.....1140

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      *: . :*:*: : **** *: *: :*: * : : *:: :
Pavo_muticus      --EVT-----PASSKNIDLEMKQLQCKLKNNAEITKQSATIKSLKNEVQEKEDQVR 983
Pavo_cristatus    --EVT-----PASSKNIDLEMKQLQCKLKNNAEITKQSATIKSLKNEVQEKEDQVR 983
Gallus_gallus     --EVT-----PASSKNIDLEMKQLQCKLKNNAEITKQSATIKSLKNEVQEKEDQVR 982
Chelonia_mydas    --PVTSNQIEVTAPTSPSKNTDLEVKQLYCKLKNANNEITKHSTTIKSLKNEAQEKEERM 1050
Mus_musculus      --RIMAPQIKVTTLGPSSRSMLEMKQLQCKLKNATNELTKQSSNVKSLRMELLAKDDHIK 1120
Rattus_norvegicus --RIMAPQIQVTTLGPSSRSTLEIKQLQCKLKNATNELTKQSSNVKSLKLELLAKDDHMK 1124
Homo_sapiens      --QVTFPRIQVTSLSRSMLEMKQLQYKLNATNELTKQSSNVKTLKFELLAKEEHIK 1130
Pan_troglodytes   --QVTFPRIQVTSLSRSMLEMKQLQYKLNATNELTKQSSNVKSLKFELLAKEEHIK 1130
Macaca_mulatta    --QVTFPRIQVTSLSRSMLEMKQLQYKLNATNELTKQSSNVKSLKFELLAKEEHIK 1130
Callithrix_jacchus --QVAVPRIQVTSLSRSMDFEMKQLQCKLKNATNELTKQSSNVKSLKFELLAKEEHIK 1159
Bos_taurus        --QVTVPRIQVTSLSRSMLEMKQLQCKLKNATNELTKQSSNLKSLKFELLAKEEHIK 1130
Equus_caballus    --QVTVPRMQVTSLSRSMLEMKQLQCKLKNATNELTKQSSNVKSLKFELLAKEEHIK 1129
Canis_lupus_familiaris --RVIVPRIQVTSLSRSMLEMKQLQCKLKNATNELTKQSSNVKSLKFELLAKEEHIK 1147
Latimeria_chalumnae QPSPTLCQTTPAK--PSKSTLEVKQLQCKLKNANNAEITKHSTTIKSLKNEAQEKEERM 1044
Rhinatrema_bivittatum LFPMSNQIQPAVPAPSKNIDLELQYKLNATNELTKQSSNVKSLKFELLAKEEHIK 1026
Xenopus_tropicalis QRLTSDQSPVTQLTESKSSDLEIKQLHTKLNMTVEITKQTTTIKYLKNEVQEKEDRIR 1030
.....1150.....1160.....1170.....1180.....1190.....1200

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      : : *::*:*:*:*:*: : * : * ... : * :*:
Pavo_muticus      ELQAKISRRLERDLNMRHLIEDLRSRLKANQENEKACNDTLESLEK----- 1030
Pavo_cristatus    ELQAKISRRLERDLNMRHLIEDLRSRLKANQENEKACNDTLESLEK----- 1030
Gallus_gallus     ELQAKISRRLERDLNMRHLIEDFRSRLKANQENEKACNESLESLEK----- 1029
Chelonia_mydas    ELQEKISRMRERDINMRHLIEDLRSRLKANQEIETFNETLESFEKK----- 1097
Mus_musculus      EMHERTSRMRERDITMKRHLIEDLKFRQVNSNESFNEMLTLEKK----- 1167
Rattus_norvegicus AMQEKMSRMRERDITMKRHLIEDLKFRQKINSNESFNEMLGTLEKK----- 1171
Homo_sapiens      EMHEKISRMRERDITMKRHLIEDLKFRQVNSNESFSEMLQNLDDKK----- 1177
Pan_troglodytes   EMHEKMSRMRERDITMKRHLIEDLKFRQVNSNESFSEMLQNLDDKK----- 1177
Macaca_mulatta    EMHEKMSRMRERDITMKRHLIEDLKFRQVNSNESFSEMLQNLDDKK----- 1177
Callithrix_jacchus EMHEKMSRMRERDITMKRHLIEDLKFRQVNSSESSEMLQNLDDKK----- 1206
Bos_taurus        EMHEKMSRMRERDITMKRHLIEDLKFRQVNSNESINEMLENLEKK----- 1177
Equus_caballus    EMHEKLSRMRERDITMKRHLIEDLKFRQVNSNESVNEMLLENLEKK----- 1176
Canis_lupus_familiaris EMHEKMSRMRERDITMKRHLIEDLKFRQVNSNESISEMLENLEKKVLFAQLIKQLVLW 1207
Latimeria_chalumnae EQQEKVARMRERDINMRQLIEDLKSRLKQVQENDKSSKEMLENLEKK----- 1091
Rhinatrema_bivittatum EMQEKVIRMRERDINMRHLIEDLKSRLKQVQENDKSSKEMLENLEKK----- 1073
Xenopus_tropicalis DLQERVARMRERDVNMRHLIEDQKTRLKTYQENERPSKEMLESLEK----- 1077
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/CNTD4/pep_msa_CNTD4.fasta **Date: Tue Feb 1 11:44:46 2022**

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		:::. . : ** : :***** . . . : ** : * : * : *	
Pavo_muticus	-----VKSLSEDCSNKKTSIDSLKQRLNVATKEKSHYEQMYHK	1068	
Pavo_cristatus	-----VKSLSEDCSNKKTSIDSLKQRLNVATKEKSHYEQMYHK	1068	
Gallus_gallus	-----VKSLSEDCSNKKTAIDSLKQRLNVATKEKSHYEQMYHK	1067	
Chelonia_mydas	-----VKLTLEDCSNKKTSIDSLKQRLNVATKEKSQYEQMYRR	1135	
Mus_musculus	-----VKSLTEEC SNKKVSVDSLKQRLNVAVKEKSQYEQMYOK	1205	
Rattus_norvegicus	-----VKTLTEEC SNKKVSVDSLKQRLSVAVKEKSQYEQMYOK	1209	
Homo_sapiens	-----VKTLTEEC SNKKVSVDSLKQRLNVAVKEKSQYEQMYOK	1215	
Pan_troglodytes	-----VKTLTEEC SNKKVSVDSLKQRLNVAVKEKSQYEQMYOK	1215	
Macaca_mulatta	-----VKTLTEEC SNKKISIDSLKQRLNVAVKEKSQYEQMYOK	1215	
Callithrix_jacchus	-----VKTLTEEC SNKKVSVDSLKQRLTVAVKEKSQYEQMYOK	1244	
Bos_taurus	-----VKTLTEEC SNKKVSVDSLKQRLSVAVKEKSQYEEQMYQQ	1215	
Equus_caballus	-----VQTLTEEC SNKKVSVDSLKQRLSVAVREKSQYEQMYOK	1214	
Canis_lupus_familiaris	HSLNVIHSRESISLTFLFGDKNVKTLTEEC SNKKVSVDSLKQRLSVAVKEKSQYEQMYOK	1267	
Latimeria_chalumnae	-----VKALTEEC SNKKTSIDSLKQRLNIVTKEKTHYDHMYCK	1129	
Rhinatrema_bivittatum	-----VKALTEDSFNKKTSIDSLKQRLNVATKEKSQYEQMYCK	1111	
Xenopus_tropicalis	-----VKALTEEC SHKKTSIDSLKQRLSVATKEKAQYEQMYHK	1115	
1270.....1280.....1290.....1300.....1310.....1320		

	:::::*::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*:::*	
Pavo_muticus	AKDELEKKVLKLSNLESKVIETEFYAMTELETAASQQLHGLAKOSGOALETVOKKILLAND	1128
Pavo_cristatus	AKDELEKKVLKLSNLESKVIETEFYAMTELETAASQQLHGLAKOSGOALETVOKKILLAND	1128
Gallus_gallus	AKDELEKKILRLSNLESKVIETEFYAMTELETAASQQLHGLAKOSGOALETVOKKILLAND	1127
Chelonia_mydas	AKDELGKKDLKLSNLEGMIBACAMTELETAASQQLHGLAKOSGOALEVVOKKMLLAND	1195
Mus_musculus	TKEELEKKDLKMSVLIKLNDETETAMAQIETAASEQLOGLALQSEQVLEGAQKKILLSANE	1265
Rattus_norvegicus	SKEELEKKDLKMNLLISKLNDETETAMAQIKSAASEQLOGLALQSEQVLEGTQKKILLANE	1269
Homo_sapiens	SKEELEKKDLKLTLLVSRISETESAMAEIETAAASKOLOELALQSEQVLEGAQKTLILLANE	1275
Pan_troglodytes	SKEELEKKDLKLTLLVSRISETESAMAEIETAAASKOLOGLALQSEQVLEGAQKTLILLANE	1275
Macaca_mulatta	SKEELEKKDLKLTLLVSRISETESAMADIETAAASKOLOGLALQSEQVLEGAQKTLILLANE	1275
Callithrix_jacchus	SKEELEKKDLKLTLLVSKINETESAMAEIETAAASKOLOVLALQSEQVLEGAQKKILLANE	1304
Bos_taurus	TKEELEKKDVKLTFLLSKINETESAMAEIETAAASKHLOGLAMQSEQALEGAQKKILLASE	1275
Equus_caballus	TKEELEKKDLKLNILVSKVNETESAMAEIETAAASKHLOGLALQSEQALEGAQKKILLATE	1274
Canis_lupus_familiaris	TKEELEKKDIKLSFLVSKISETESAMAEIETAAASKHLOGLALQSEQALESAQKKILLANE	1327
Latimeria_chalumnae	VKDELDKKNQKLCDELEAKVIEVESTMTQLEATASQQLHALAVQSEQALEVIOKKLQSSNA	1189
Rhinatrema_bivittatum	AKKDLEKEMLRVTDLESKITEAESAMTEFETASQQLHGLAMOSGOALEGIOKKILLANN	1171
Xenopus_tropicalis	VKEDMEKTKVKNLSNLEIKVTESEHAISKLENTATQQLHNLAAQSEQALEVIONKLLLVTR	1175
1330.....1340.....1350.....1360.....1370.....1380	

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Pavo_muticus	KIDEFMTFVKA	LTREIHHSV	1148
Pavo_cristatus	KIDEFMTFVKA	LTREIHHSV	1148
Gallus_gallus	KIEEFMTFVKA	LTREIHHSI	1147
Chelonia_mydas	KVEEFIIFVKA	LTRELOHNV	1215
Mus_musculus	KIEEFTVFVKA	LVNELQSDV	1285
Rattus_norvegicus	KIEEFTVFVQA	LVNELQSDA	1289
Homo_sapiens	KVEEFTTFVKA	LAKELQNDV	1295
Pan_troglodytes	KVEEFTTFVKA	LAKELQNDV	1295
Macaca_mulatta	KVEEFTKFVKA	LAKELQNDV	1295
Callithrix_jacchus	KVEEFTTFVKA	LAKELQNDV	1324
Bos_taurus	KVEEFTTFVKA	LVRELQNDV	1295
Equus_caballus	KVEEFTVFVKA	AGSIPPLTLLEKSKKNSSGFRGTRRYSRESGDCSAPFNPTALVKELOTDV	1334
Canis_lupus_familiaris	KVEEFTTFVKA	LAKELQSDV	1347
Latimeria_chalumnae	QIEEFVTFIKL	VAKELQNCV	1209
Rhinatrema_bivittatum	IVDEFVTFVKA	LATGIQIDI	1191
Xenopus_tropicalis	RAEELAIIVKS	LAKELLNT	1195
1390.....1400.....1410.....1420.....1430.....1440		

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	ETAKAKMESEKDKEWLLCTQKLL E A Q F P F A S Y L L D A I L A K L N E K K K L G E E Y S S L M K H S V T	1260
Pavo_cristatus	ETAKAKMESEKDKEWLLCTQKLL E A Q F P F A S Y L L D A I L A K L N E K K K L G E E Y S S L M K H S V T	1260
Gallus_gallus	EAAQAKMESEKDKEWLLCTQKLL E A Q F P F A S Y L L D A I L A K L N E K K K L G E E Y S S L M K R S L T	1259
Chelonia_mydas	EIERAKMEVEKDKEWLLCYIQKLL E G Q F P F A S Y L M D A V L E K L N E K K K L V E G Y S S L M R Q T I I	1330
Mus_musculus	EIEKTKIDIDIENDKEWMLYIQKLL E G Q L P F A S Y L L E A V L E K I K E N K K L T E G Y F T V M K D T R	1396
Rattus_norvegicus	EIEKTKIDAENDKD W M L Y I Q K L L G Q L P F A S Y L L E A V L G K I K E N K K L T E G Y F T V M K D I K	1400
Homo_sapiens	EIEKTKIDAENDKEWMLYIQKLL E G Q L P F A S Y L L E A V L E K I N E K K K L V E G Y F T I M K D I R	1406
Pan_troglodytes	EIEKTKIDAENDKEWMLYIQKLL E G Q L P F A S Y L L E A V L E K I N E K K K L V E G Y F T I M K D I R	1406
Macaca_mulatta	EIEKTKIDAENDKEWMLYIQKLL E G Q L P F A S Y L L E A V L E K I N E K K K L V E G Y F T I M K D I R	1406
Callithrix_jacchus	EIEKTKIDAENDKEWMLYIQKLL E G Q L P F A S Y L L E A V L E K L N E K K K L V E G Y F T I M N D I R	1438
Bos_taurus	EIERTKTEAENDKEWLLYIRKLL E G Q L P F A T Y L L E A I L E K I N E K K R L V E E Y F T V M K D T R	1406
Equus_caballus	EIERTKMDAENDKEWLLYIQKLL E G Q N N I P L H G C T T V G L S I Y P S E D I G N Y I S W A V A N S L A	1446
Canis_lupus_familiaris	DIERTKINAENDREWLLYIQKLL E G Q L P F A S Y L L E A V L E K I N E R K K L V E G Y F T I M K D I R	1458
Latimeria_chalumnae	ESEETKAAIRSDQKWL N Q I Q E I L K G Q L P F A A H L M E A V M Y K I K E R T E L A E E Y V L L P K E D K	1320
Rhinatrema_bivittatum	ENEKTKVALEHDKEWLGHILK I L E A E F P F A S C L M E A M E K L N Q R K R L V E E Y T L L M K D T R	1303
Xenopus_tropicalis	EEANIKRLV E S D K K W A N H I K L L E G Q L P F A S S L M K A V Q E K L N E K A R L M E E Y T L L K R H S	1307
1510.....1520.....1530.....1540.....1550.....1560	

Pavo_muticus	-	1260
Pavo_cristatus	-	1260
Gallus_gallus	-	1259
Chelonia_mydas	-	1330
Mus_musculus	-	1396
Rattus_norvegicus	-	1400
Homo_sapiens	-	1406
Pan_troglodytes	-	1406
Macaca_mulatta	-	1406
Callithrix_jacchus	-	1438
Bos_taurus	-	1406
Equus_caballus	E	1447
Canis_lupus_familiaris	-	1458
Latimeria_chalumnae	-	1320
Rhinatrema_bivittatum	-	1303
Xenopus_tropicalis	-	1307