

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF12141.fst Date: Tue Feb 1 12:43:49 2022

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*          .          .          *****:*****:*****:*****
Pavo_muticus      MSAGQDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Pavo_cristatus    MSAGQDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Gallus_gallus     MSAGQDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Anas_platyrhynchos MSAGQDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Chelonia_mydas    MSAGQDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Mus_musculus      MLGAADSSVR-----VAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Rattus_norvegicus MGSKSKRQPLSD---GRCSLLRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  57
Bos_taurus        MWGAPDESS-----VRVAVRIRPOLAKERIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Equus_caballus    MWGAPDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Canis_lupus_familiaris MFFITQHVTSCMWIIITTELLSRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  60
Homo_sapiens      MLGAPDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Pan_troglodytes   MLGAPDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Callithrix_jacchus MLGAPDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Macaca_mulatta    MLGAPDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Rhinatrema_bivittatum MSAGQDESS-----VRVAVRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
Xenopus_tropicalis MTGAQDDSA-----VRVALRIRPOLAKEKIEGCHICTSVTPGEPQVFLGKDKAFTFDY  53
1.....10.....20.....30.....40.....50.....60

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*:***:***:***:***:***:*****:*****:*****:*****:***:***
Pavo_muticus      VFNIDSQEEIYIQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Pavo_cristatus    VFNIDSQEEIYIQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Gallus_gallus     VFNIDSQEEIYIQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Anas_platyrhynchos VFNIDSQEEIYIQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Chelonia_mydas    VFNIDSQEEIYDQCIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEDEQGI  113
Mus_musculus      VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Rattus_norvegicus VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  117
Bos_taurus        VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Equus_caballus    VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Canis_lupus_familiaris VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  120
Homo_sapiens      VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Pan_troglodytes   VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Callithrix_jacchus VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Macaca_mulatta    VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Rhinatrema_bivittatum VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
Xenopus_tropicalis VFDIDSQEEIYIYQCIIEKLIEGCFEGYNATVFAYGQTGAGKTYTMGTGFDVNIIEEEQGI  113
.....70.....80.....90.....100.....110.....120

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*.***:***:***:***:***:*****:*****:*****:*****:***:***
Pavo_muticus      ISRAVKHLFRCEIEKKQAIAIKQGLPPPDKVNAQFLELYNEEILDLDFTTRDIDAKNKKs  173
Pavo_cristatus    ISRAVKHLFRCEIEKKQAIAIKQGLPPPDKVNAQFLELYNEEILDLDFTTRDIDAKNKKs  173
Gallus_gallus     ISRAVKHLFRCEIEKKQAIAIKQGLPPPDKVNAQFLELYNEEILDLDFTTRDIDAKNKKs  173
Anas_platyrhynchos ISRAVKHLFRCEIEKKQAIAIKQGLPPPDKVNAQFLELYNEEILDLDFTTRDIDAKNKKs  173
Chelonia_mydas    ISRAVKHLFKCEIEKKQAIAIKQELPSPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  173
Mus_musculus      ISRAVRHLFKSIDEKKTSAIKNGLPPPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  173
Rattus_norvegicus ISRAVKHLFKSIDEKKTSAIKNGVPPPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  177
Bos_taurus        ISRAVKHLFKSIDEKKTSAIKNGLPPPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  173
Equus_caballus    ISRAVKHLFKSIDEKKTSAIKNGLPPPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  173
Canis_lupus_familiaris ISRAVKHLFKSIDEKKTSAIKNGHPPPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  180
Homo_sapiens      ISRAVKHLFKSIDEKKTSAIKNGLPPPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  173
Pan_troglodytes   ISRAVKHLFKSIDEKKTSAIKNGLPPPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  173
Callithrix_jacchus ISRAVKHLFKSIDEKKTSAIKNGLPPPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  173
Macaca_mulatta    ISRAVKHLFKSIDEKKTSAIKNGLPPPEFKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  173
Rhinatrema_bivittatum IPRAVRHLFKCEIEKKQAIAINQGLPPPEFKVNSQFLELYNEEVLDLDFTTRDIDAKNKKs  173
Xenopus_tropicalis IPRAVTHLFRRIIEKKQFALEQGLPPPDKVNAQFLELYNEEVLDLDFTTRDIDAKNKKs  173
.....130.....140.....150.....160.....170.....180

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF14a.pep Tue Feb 1 12:43:49 2022

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Pavo_muticus      NIKIHEDSAGGIYTVGVTTTRTVNGESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Pavo_cristatus    NIKIHEDSAGGIYTVGVTTTRTVNGESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Gallus_gallus     NIKIHEDSAGGIYTVGVTTTRTVNGESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Anas_platyrhynchos NIKIHEDSAGGIYTVGVTTTRTVNGESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Chelonia_mydas    NIKIHEDSTGGIYTVGVTTTRTVNGEAEMIQCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Mus_musculus      NIRIHEDSTGGIYTVGVTTTRTVNTEPEMMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Rattus_norvegicus NIRIHEDSTGGIYTVGVTTTRTVNTEPEMMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 237
Bos_taurus        NIRIHEDSAGGIYTVGVTTTRTVNTESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Equus_caballus    NIRIHEDSTGGIYTVGVTTTRTVNTESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Canis_lupus_familiaris NIRIHEDSTGGIYTVGVTTTRTVNTESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 240
Homo_sapiens      NIRIHEDSTGGIYTVGVTTTRTVNTESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Pan_troglodytes   NIRIHEDSTGGIYTVGVTTTRTVNTESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Callithrix_jacchus NIRIHEDSTGGIYTVGVTTTRTVNTESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Macaca_mulatta    NIRIHEDSTGGIYTVGVTTTRTVNTESEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Rhinatrema_bivittatum NIKIHEDSTGGIYTVGVTTTRTVNSEAEMOCCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
Xenopus_tropicalis NIRIHEDSSGGIYTVGVTTTRNVSETEMIQCLKLGALSRTTASTQMNVOSSRSHAIFTIH 233
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      LCQTRVCPAFNTDNATDNRII SESEMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Pavo_cristatus    LCQTRVCPAFNTDNATDNRII SESEMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Gallus_gallus     LCQTRVCPAFNTDNATDNRII SESEMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Anas_platyrhynchos LCQTRVCPAFNTDNATDNRII SESSQMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Chelonia_mydas    VCQTRVCSAVDTDNVTDTKII SESSQTNFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Mus_musculus      VCQTRVCPQTDENATDNKLI SESSPMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Rattus_norvegicus VCQTRVCPQTDENATDNKMI SESSPMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 297
Bos_taurus        LCQTRMCPQIDAENVTDNKVI SESSQMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Equus_caballus    VCQTRMCPQIDAENVTDNKVI SESSQMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Canis_lupus_familiaris LCQTRMCPQTDENATDNKVI SESSQLNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 300
Homo_sapiens      VCQTRVCPQIDADNATDNKII SESSQMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Pan_troglodytes   VCQTRVCPQIDADNATDNKII SESSQMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Callithrix_jacchus VCQTRVCPQIDADNATDNKII SESSQMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Macaca_mulatta    VCQTRVCPQIDADSATDNKII SESSQMNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Rhinatrema_bivittatum LCQTRICLKMDMENEMDNRII SESSQLNEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
Xenopus_tropicalis LCQNRVCPKIDNENDLNRMAESNQINEFETLTAKFHFVDLAGSERLKRTGATGERAKE 293
.....250.....260.....270.....280.....290.....300

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*****:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*
Pavo_muticus      GISINCGLLAGNVISALGDKSKKATHVPYRDSKLTRLLQDSLGGNSQTLMIACVSPSDR 353
Pavo_cristatus    GISINCGLLAGNVISALGDKSKKATHVPYRDSKLTRLLQDSLGGNSQTLMIACVSPSDR 353
Gallus_gallus     GISINCGLLAGNVISALGDKSKKATHVPYRDSKLTRLLQDSLGGNSQTLMIACVSPSDR 353
Anas_platyrhynchos GISINCGLLAGNVISALGDKSKKATHVPYRDSKLTRLLQDSLGGNSQTLMIACVSPSDR 353
Chelonia_mydas    GISINCGLLAGNVISALGDKSKKATHVPYRDSKLTRLLQDSLGGNSQTVMIACVSPSDR 353
Mus_musculus      GISINCGLLAGNVISALGDKSKRATHVPYRDSKLTRLLQDSLGGNSQTIMIACVSPSDR 353
Rattus_norvegicus GISINCGLLAGNVISALGDKSKRATHVPYRDSKLTRLLQDSLGGNSQTIMIACVSPSDR 357
Bos_taurus        GISINCGLLAGNVISALGDKSKRATHVPYRDSKLTRLLQDSLGGNSQTIMIACVSPSDR 353
Equus_caballus    GISINCGLLAGNVISALGDKSKRATHVPYRDSKLTRLLQDSLGGNSQTIMIACVSPSDR 353
Canis_lupus_familiaris GISINCGLLAGNVISALGDKSKRATHVPYRDSKLTRLLQDSLGGNSQTIMIACVSPSDR 360
Homo_sapiens      GISINCGLLAGNVISALGDKSKRATHVPYRDSKLTRLLQDSLGGNSQTIMIACVSPSDR 353
Pan_troglodytes   GISINCGLLAGNVISALGDKSKRATHVPYRDSKLTRLLQDSLGGNSQTIMIACVSPSDR 353
Callithrix_jacchus GISINCGLLAGNVISALGDKSKRATHVPYRDSKLTRLLQDSLGGNSQTIMIACVSPSDR 353
Macaca_mulatta    GISINCGLLAGNVISALGDKSKRATHVPYRDSKLTRLLQDSLGGNSQTIMIACVSPSDR 353
Rhinatrema_bivittatum GISINCGLLAGNVISALGDKSKKVTHVPYRDSKLTRLLQDSLGGNSQTFMIACVSPSDR 353
Xenopus_tropicalis GISINCGLLAGNVISALGDKSKKATHVPYRDSKLTRLLQDSLGGNSQTVMIACVSPSDR 353
.....310.....320.....330.....340.....350.....360

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File: /media/morpheus/disk1/fst/pep_msa/KIF24a1p1 Tue Feb 1 12:43:49 2022
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	*:*****:****:***:***:* :*:***	
Pavo_muticus	GVESINDMFHENAMLTENNNLVRRIKAMQETIDALRARVTQLVSDQANQVVLARAGEGNE	473
Pavo_cristatus	GVESINDMFHENAMLTENNNLVRRIKAMQETIDALRARVTQLVSDQANQVVLARAGEGNE	473
Gallus_gallus	GVESINDMFHENAMLTENNNLVRRIKAMQETIDALRARVTQLVSDQANQVVLARAGEGNE	473
Anas_platyrhynchos	GVESINDMFHENAMLTENNNLVRRIKAMQETIDALRARVTQLVSDQANQVVLARAGEGNE	473
Chelonia_mydas	GMESINDMFHENAMLTENNNLVRRIKAMQETVDALRARITQLMSDQANQVVLARAGDGNE	473
Mus_musculus	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRARITQLVSEQANQVVLARAGEGNE	473
Rattus_norvegicus	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRARITQLVSEQANQVVLARAGEGNE	477
Bos_taurus	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRTRITQLVSDQANQVLVKAGEGNE	473
Equus_caballus	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRARITQLLSDQANQVVLARAGEGNE	473
Canis_lupus_familiaris	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRARITQLVSDQANQVVLARAGEGNE	480
Homo_sapiens	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRSRITQLVSDQANHVLARAGEGNE	473
Pan_troglodytes	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRSRITQLVSDQANHVLARAGEGNE	473
Callithrix_jacchus	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRSRITQLVSDQANHVLARAGEGNE	473
Macaca_mulatta	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRSRITQLVSDQANHVLARAGEGNE	473
Rhinatrema_bivittatum	GVESINDMFHENAMLTENNNLVRRIKAMQETVDALRTRITQLMSDQANQVILGRAGDGNE	473
Xenopus_tropicalis	GVESINDMFHENAMLTENNNLVRRIKAMQETIDALRSRITQLMSDQANQVILSRSGDGNE	473
430.....440.....450.....460.....470.....480	

	*****.*****.*:*::*. :.* :.* :.:*	
Pavo_muticus	EISNMIHNYIKEIEDLRAKLLESEAVNENLRRNLRASTRSTYFGGSPAFS--MLSSKEKE	531
Pavo_cristatus	EISNMIHNYIKEIEDLRAKLLESEAVNENLRRNLRASTRSTYFGGSPAFS--MLSSKEKE	531
Gallus_gallus	EISNMIHNYIKEIEDLRAKLLESEAVNENLRRNLRASTRSTYFGGSPAFS--MLSSKEKE	531
Anas_platyrhynchos	EISNMIHNYIKEIEDLRAKLLESEAVNENLRRNLRASTRSTYFGGSPAFSA S MLSSKEKE	533
Chelonia_mydas	EISNMIHNYIKEIEDLRAKLLESEAVNENLRRSLRASTRSPSYFGGSPAFSA S VLSSKEKE	533
Mus_musculus	EISNMIHSYIKEIEDLRAKLLESEAVNENLRKNLTRATARSPIYFSASSAFSP T ILSSDKE	533
Rattus_norvegicus	EISNMIHSYIKEIEDLRAKLLESEAVNENLRKSLTRATARSPFFSASSAFSP T ILSSDKE	537
Bos_taurus	EISNMIHNYIKEIEDLRAKLLESEAVNENLRKNLTRATSRSPIYFSGSSAFSP T IIVSSDKE	533
Equus caballus	EISNMIHSYIKEIEDLRAKLLESEAVNENLRKNLTRATARSAYFSGSSAFSP T ILSSDKE	533
Canis_lupus_familiaris	EISNMIHSYIKEIEDLRAKLLESEAVNENLRKNLTRATARSPIYFSGSSAFSP T ILSSDKE	540
Homo_sapiens	EISNMIHSYIKEIEDLRAKLLESEAVNENLRKNLTRATARAPYFSGSSTFSPT I LSSDKE	533
Pan_troglodytes	EISNMIHSYIKEIEDLRAKLLESEAVNENLRKNLTRATARAPYFSGSSTFSPT I LSSDKE	533
Callithrix_jacchus	EISNMIHSYIKEIEDLRAKLLESEAVNENLRKNLTAAARGPYFSG-STFSPT I LSSDKE	532
Macaca_mulatta	EISNMIHSYIKEIEDLRAKLLESEAVNENLRKNLTRATARAPYFSGSSTFSPT I LSSDKE	533
Rhinatrema_bivittatum	EISNMIHNYIKEIEDLRAKLLESEAVNENLRRNLARASTRSPYFGTSSPFSAPCCPAEKE	533
Xenopus_tropicalis	EISNMIHNYIKEIEDLRAKLLESEAVNENLRKLSLRASSRSPSYFPAHTPFPTS LIAAEQE	533
490.....500.....510.....520.....530.....540	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF24/pep_msa_KIF24.fasta Date: Tue Feb 1 12:43:49 2022

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* : * *:****:*****: *:***          * . .:: ::** :*: .:*
TLEILDIAKKDLEKLKKKERKKKKRLOKLEESSQEERS-VKDDN-TDNEQEKRDERTGTSE    589
TLEILDIAKKDLEKLKKKERKKKKRLOKLEESSQEERS-VKDDN-TDNEQEKRDDEKGTSE    589
TLEILDIAKKDLEKLKKKERKKKKRLOKLEESSQEERS-VKDDN-TDNEQEKRDDEKGTSE    589
TMEILDI AKKDLEKLKKKERKKKKRLOKLEESSQEERS-VKDDN-TDNEQEKRDDEKGTSE    591
TLEILDIAKKDLEKLKKKEKKKKKRLOKLEESNQEERSNVKEEN-PDNEQEKRDDEKSTSE    592
TIEIIDLAKKDLEKLKRKEKKKKKRLOKLEESGREERSVAGKDDNADTDQEKKEEGVSE      593
TIEIIDLAKKDLEKLKRKEKRKKKRLOKLEESSREERSVAGKENNADPDQEKKEEGVSE      597
TIEIIDLAKKDLEKLKRKEKKKKK-----SVAGKEDNTDTDQEKKEEKNISE          580
TIEIIDLAKKDLEKLKRKEKKKKKRLOKLEESNREERSVAGKEDNIETDQEKKEEGGISE      593
TIEIIDLAKKDLEKLKRKEKKKKKRLOKLEESNREERSVASKEDNTDQEKKEEGGITTE      600
TIEIIDLAKKDLEKLKRKEKRKKKRLOKLEESNREERSVAGKEDNTDTDQEKKEEGVSE      593
TIEIIDLAKKDLEKLKRKEKRKKKRLOKLEESNREERSVAGKEDNTDTDQEKKEEGVSE      593
TIEIIDLAKKDLEKLKRKEKRKKKRLOKLEESNREERSVAAKEDNTDTDQEKKEEGVSE      592
TIEIIDLAKKDLEKLKRKEKRKKKRLOKLEESNREERSVAGKEDNTDTDQEKKEEGGASE      593
TTDIXDLAKKDVEKLKKKEKKKKKRLOOLEESTQEERSVVKREEN-IDNEQEKAEKGDASE     592
TNEIIMAKKDLEKLKKIEKKKKK-----SIVKEEN---PDNEKLEEKDNTE           577
.....550.....560.....570.....580.....590.....600
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RANNELEAEETIQEVSDHEDEEEEDD--EEDDDMEVVESSESDESDSDSEKENYQADLANIT      647
RANNELEAEETIQEVSDHEDEEEEDD--EEDDDMEVVESSESDESDSDSEKENYQADLANIT      647
RANNELEAEETIQEASDHEDEEEEDD--EEDDDMEVVESSESDESDSDSEKENYQADLANIT      647
RENNELEAEETIQEASDHEDEEEEDD--EEDDDMEVVESSESDESDSDSEKENYQADLANIT      649
RENHELEVEETIQEVSDHEDEEEEDD--ED-DDMEVVESSESDESDSDLEEKENYQADLANIT      649
KENNELDVEENQEVSDHEDEEEEEEDDEEEEDDIEGEESSESDESDSESEKANYQADLANIT      653
KESSEVDVDENQEASDHEDEEEEDDEEEEDDIEGEESSESDESDSESEKANYQADLANIT      657
RENIELEVEESQEVSDHEDEEEEEEE--EEEDDIEGGESSESDESDSESEKANYQADLANIT      638
RENHELEVEESQEVSDHEEEEEEEEE--EEEDDIEGGESSESDESDSESEKANYQADLANIT      651
RENNELEVEESQEVSDHEEEEEEEEE--EEEDDIEGGESSESDESDSESEKANYQADLANIT      658
RENNELEVEESQEVSDHEEEEEEEEE--EEEDDIDGGESSESDESDSESEKANYQADLANIT      651
RENNELEVEESQEVSDHEEEEEEEEE--EEEDDIDGGESSESDESDSESEKANYQADLANIT      651
RESNELEVEESQEVSDHEEEEEEEEE--EEDDDIEGGESSESDESDSESEKANYQADLANIT      650
RENNELELEESQDMSDHEDEEEEEEE--EEEDDIEGGESSESDESDSESEKANYQADLANIT      651
RESHELEVEEGLETSDHEEIEEEEEEE--DEDDDIEGXESSESDESDSELDEKANYQADLANIT      651
KECHDLVIEER---SDHEDEEEEEEE--EEEDVDAAESSDSDSELEEKENYQADLANIT      633
.....610.....620.....630.....640.....650.....660

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*****::*:***:******:***:*****:*****:**:*:
CEIAIKQKLIIDELENSQRRLOTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVETYSY 707
CEIAIKQKLIIDELENSQRRLOTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVETYSY 707
CEIAIKQKLIIDELENSQRRLOTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVETYSY 707
CEIAIKQKLIIDELENSQRRLOTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVETYSY 709
CEIAIKQKLIIDELENSQRRLOTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVESCSY 709
CEIAIKQKLIIDELENSQKRLQTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVESYSY 713
CEIAIKQKLIIDELENSQKRLQTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVESYSY 717
CEIAIKQKLIIDELENSQKRLQTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSMESYSY 698
CEIAIKQKLIIDELENSQKRLQTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVESYSY 711
CEIAIKQKLIIDELENSQKRLQTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVESYSY 718
CEIAIKQKLIIDELENSQKRLQTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVESYSY 711
CEIAIKQKLIIDELENSQKRLQTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVESYSY 711
CEIAIKQKLIIDELENSQKRLQTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVESYSY 710
CEIAIKQKLIIDELENSQKRLQTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSVESYSY 711
CEIAIKQKLIIDELENSQRRLHTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSMETCTE 711
CEIAIKQKLIIDELENSQRRLHTLKKQYEEKLMMLQHKIRDQLERDQVLQNLGSMETCTE 693
.....670.....680.....690.....700.....710.....720
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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF24/pep_msa_KIF24.fasta Date: Tue Feb 1 12:43:49 2022

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[illegible]

*****.:*:*****:*****:*:*****::**:* **:
RLMKOMKEEQEKARMTESRRNREIAQLKKEQRKREHQLKLLEAQKRNOEVILRRKTEEVT
RLMKOMKEEQEKARMTESRRNREIAQLKKEQRKREHQLKLLEAQKRNOEVILRRKTEEVT
RLMKOMKEEQEKARMTESRRNREIAQLKKEQRKREHQLKLLEAQKRNOEVILRRKTEEVT
RLMKOMKEEQEKARMTESRRNREIAQLKKEQRKREHQLRLLLEAQKRNOEVILRRKTEEVT
RLMKOMKEEQEKARMTESRRNREIAQLKKEQRKREHQLKLLEAQKRNOEVVLRRKTEEVT
RLMKOMKEEQEKARLTESRRNREIAQLKKDQKRKDHQLRLLLEAQKRNOEVVLRRKTEEVT
RLMKOMKEEQEKARLTESRRNREIAQLKKDQKRKDHQLRLLLEAQKRNOEVVLRRKTEEVT
RLMKOMKEEQEKARLTESRRNREIAQLKKDQKRKDHQLRLLLEAQKRNOEVVLRRKTEEVT
RLMKOMKEEQEKARLTESRRNREIAQLKKDQKRKDHQLRLLLEAQKRNOEVVLRRKTEEVT
RLMKOMKEEQEKARLTESRRNREIAQLKKDQKRKDHQLRLLLEAQKRNOEVVLRRKTEEVT
RLMKOMKEEQEKARLTESRRNREIAQLKKDQKRKDHQLRLLLEAQKRNOEVVLRRKTEEVT
RLMKOMKEEQEKARLTESRRNREIAQLKKDQKRKDHQLRLLLEAQKRNOEVVLRRKTEEVT
RLMKOMKEEQEKARLVESRRNREIAQLKKDQKRKDQMRLLEAQKKQOELIYAGKRKEVT
RLMKOMKEEQEKARVETRRNREIAQLKKDQKRKDSQLRLLLEAQKKQEVLRRKTEEVT
.....790.....800.....810.....820.....830.....840

[illegible]

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF14a.pep Tue Feb 1 12:43:49 2022

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      . .: **. *:***. : : *::** ** *::*:**::*****.*****
Pavo_muticus      LSVTATNGTGKKYQRKAVTSRVYSSRAARMKWOLLERRVTDIIMORMTISNMEADMNRL 946
Pavo_cristatus    LSVTATNGTGKKYQRKAVTSRVYSSRAARMKWOLLERRVTDIIMORMTISNMEADMNRL 946
Gallus_gallus     LSVTATNGTGKKYQRKAVTSRVYSSRAARMKWOLLERRVTDIIMORMTISNMEADMNRL 946
Anas_platyrhynchos LSVTATNGTGKKYQRKAVTSRVYSSKAARMKWOLLERRVTDIIMORMTISNMEADMNRL 948
Chelonia_mydas    LSVTAMNGTRKKYQRKGTTVRVYSSKAARMKWOLLERKVTDIIMORMTISNMETDMNRL 949
Mus_musculus      LPTPTTNGTRKKYQRKGFTGRVFTSKTARMKWOLLERRVTDIIMOKMTISNMEADMNRL 953
Rattus_norvegicus LPTPTTNGTRKKYQRKGFTGRVFTSKTARMKWOLLERRVTEIIMOKMTISNMEADMNRL 957
Bos_taurus        LPTPTANGTRKKYQRKGLTGRVFTSKTARMKWOLLERRVTDIIMOKMTISNMEADMNRL 938
Equus_caballus    LPTPATNGTRKKYQRKGLTGRVFTSKTARMKWOLLERRVTDIIMOKMTISNMEADMNRL 951
Canis_lupus_familiaris LPTPTTNGTRKKYQRKGLTGRVFTSKTARMKWOLLERRVTDIIMOKMTISNMEADMNRL 958
Homo_sapiens      LPTPATNGNRKKYQRKGLTGRVFISKTARMKWOLLERRVTDIIMOKMTISNMEADMNRL 951
Pan_troglodytes   LPTPATNGNRKKYQRKGLTGRVFISKTARMKWOLLERRVTDIIMOKMTISNMEADMNRL 951
Callithrix_jacchus LPTSATNGTRKKYQRKGLTGRVFISKTARMKWOLLERRVTDIIMOKMTISNMEADMNRL 950
Macaca_mulatta    LPTPTTNGTRKKYQRKGLTGRVFISKTARMKWOLLERRVTDIIMOKMTISNMEADMNRL 951
Rhinatrema_bivittatum APIAAVNGTRKKHQKGTSS--VYTSKAARMKWQSLERRITDIILORMTISNMEADMNRL 948
Xenopus_tropicalis ATSTALNGTRKKYQRKGVSS--YTSKAARQKWQSLERRITDIVMORMTISNMEVDMNRL 929
.....910.....920.....930.....940.....950.....960

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      *****:***: *: :.. *: *::: .: ***** *****:**** *****
Pavo_muticus      TQREELTRRREKLSKKREKLIKDGGSSEADRSVQNIINEEMESLTANIDYINDSIFDCQAN 1006
Pavo_cristatus    TQREELTRRREKLSKKREKLIKDGGSSEADRSVQNIINEEMESLTANIDYINDSIFDCQAN 1006
Gallus_gallus     TQREELTRRREKLSKKREKLIKDGGSSEADRNQNIINEEMESLTANIDYINDSISDCQAN 1006
Anas_platyrhynchos TQREELTKRREKLSKKREKLIKDGGSSEADRNQNIINEEMESLTANIDYINDSISDCQAN 1008
Chelonia_mydas    KQREELTKRREKLLKKREKVIKDDGG--EADKNVHNINEEMESLTANIDYINDSISDCQAN 1008
Mus_musculus      RQREELTKRREKLSKKREKIVKESGE--GDKSVANIIIEEMESLTANIDYINDSIADQAN 1011
Rattus_norvegicus RQREELTKRREKLSKKREKIVKESGE--GDKNLVNIIEEMESLTANIDYINDSIADQAN 1015
Bos_taurus        KQREELTKRREKLSKKWEKIVKENGE--GDKNVNINEEMESLTANIDYINDSISDCQAN 996
Equus_caballus    KQREELTKRREKLSKKREKIVKESGE--GDKNVNINEEMESLTANIDYINDSISDCQAN 1009
Canis_lupus_familiaris KQREELTKRREKLSKKREKIVKESGE--GDKNVNINEEMESLTANIDYINDSISDCQAN 1016
Homo_sapiens      KQREELTKRREKLSKKREKIVKENGE--GDKNVNINEEMESLTANIDYINDSISDCQAN 1009
Pan_troglodytes   KQREELTKRREKLSKKREKIVKENGE--GDKNVNINEEMESLTANIDYINDSISDCQAN 1009
Callithrix_jacchus KQREELTKRREKLSKKREKIVKENGE--GDKNVNINEEMESLTANIDYINDSISDCQAN 1008
Macaca_mulatta    KQREELTKRREKLSKKREKIVKENGE--GDKNVNINEEMESLTANIDYINDSISDCQAN 1009
Rhinatrema_bivittatum KQREELTKRREKLSKKRRFMKETGE--VDRNVTNINEEMESLTANIDYINDSISDCQAN 1006
Xenopus_tropicalis KQREELTKRREKLSKKRDRILKESGD--ADKNHSLSEEMESLTANIDYINDSISDCQAS 987
.....970.....980.....990.....1000.....1010.....1020

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      *****:***: *: :.. *: *::: .: *****:***:*****
Pavo_muticus      IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLTMGINKGLQAAQKEAQIKVLEGR 1066
Pavo_cristatus    IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLTMGINKGLQAAQKEAQIKVLEGR 1066
Gallus_gallus     IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLTMGINKGLQAAQKEAQIKVLEGR 1066
Anas_platyrhynchos IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLTMGINKGLQAAQKEAQIKVLEGR 1068
Chelonia_mydas    IMQEEAKEEGETMDLSAVINACTLTEARYLLDHFLTMGINKGLQAAQKEAQIKVLEGR 1068
Mus_musculus      IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLSMGINKGLQAAQKEAQIKVLEGR 1071
Rattus_norvegicus IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLSMGINKGLQAAQKEAQIKVLEGR 1075
Bos_taurus        IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLSMGINKGLQAAQKEAQIKVLEGR 1056
Equus_caballus    IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLSMGINKGLQAAQKEAQIKVLEGR 1069
Canis_lupus_familiaris IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLSMGINKGLQAAQKEAQIKVLEGR 1076
Homo_sapiens      IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLSMGINKGLQAAQKEAQIKVLEGR 1069
Pan_troglodytes   IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLSMGINKGLQAAQKEAQIKVLEGR 1069
Callithrix_jacchus IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLSMGINKGLQAAQKEAQIKVLEGR 1068
Macaca_mulatta    IMQEEAKEEGETLDVTAVINACTLTEARYLLDHFLSMGINKGLQAAQKEAQIKVLEGR 1069
Rhinatrema_bivittatum IMQEEAKEEGDLDVTAVISSCTLLEARYLLDHFLSMVAVNKGLOAAQKEAQVKVLEGR 1066
Xenopus_tropicalis IMQEEAKEEGDLDVTAVISSCTLLEARYLLDHFLNMAVSKSLQAAQKEAQIKVLEGR 1047
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF12141.fst Date: Tue Feb 1 12:43:49 2022

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*****:*****:*****:***          *  *:.....:..**
Pavo_muticus      KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSIPLEHLEDSTDEDAPLHSP 1126
Pavo_cristatus    KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSIPLEHLEDSTDEDAPLHSP 1126
Gallus_gallus     KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSIPLEHLEDSTDEDAPLHSP 1126
Anas_platyrhynchos KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSIPLENLEDSTDEDAPLHSP 1128
Chelonia_mydas    KQTEITSSTQNQLLFHMLKEKAELNPELDALLGHALQDLDSIPLENVEDSTDEDAPLHSP 1128
Mus_musculus      KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDGAPPENEDSSEEDGPLHSP 1131
Rattus_norvegicus KQTEITSATQNQLLFHMLKEKAELNPELDALLGNALQDLDSAPLEDEDSSEEDGPLHSP 1135
Bos_taurus        KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQ-----ENVEDSTDEDVPLHSP 1109
Equus_caballus    KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSIPLESVEDSTDEDAPLHSP 1129
Canis_lupus_familiaris KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSVPLENVEDSTDEEAPLNHP 1136
Homo_sapiens      KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSVPLENVEDSTDEDAPLNHP 1129
Pan_troglodytes   KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSVPLENVEDSTDEDAPLNHP 1129
Callithrix_jacchus KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSVPLENVEDSTDEDAPLNHP 1128
Macaca_mulatta    KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSVPLENVEDSTDEDAPLNHP 1129
Rhinatrema_bivittatum KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSIPLENVEHTSDEEGSVHSP 1126
Xenopus_tropicalis KQTEITSATQNQLLFHMLKEKAELNPELDALLGHALQDLDSIPLENAENSSDDDGSLQSP 1107
.....1090.....1100.....1110.....1120.....1130.....1140

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.:**.:*:***:*****.*****:~:*****.: ... ..: ..
Pavo_muticus      GTEGSALSSDLLKLCGEVKKPKSKARRRTTTQOMELLYADSSDLVSDVSAAESITLPGLLASA 1186
Pavo_cristatus    GTEGSALSSDLLKLCGEVKKPKSKARRRTTTQOMELLYADSSDLVSDVSAAESITLPGLLASA 1186
Gallus_gallus     GTEGSALSSDLLKLCGEVKKPKSKARRRTTTQOMELLYADSSDLVSDVSAAESITLPGLPESA 1186
Anas_platyrhynchos GTEGSSLSDDLKLCGEVKKPKSKARRRTTTQOMELLYADSSDLVSDVSAAGSTLPGPLASA 1188
Chelonia_mydas    GAEGSSLSDDLKLCGEVKKPKSKARRRTTTQOMELLYADSSDLASESSAADITLPGPLTPV 1188
Mus_musculus      GSEGSTLSSDLMLKLCGEVKKPKSKARRRTTTQOMELLYADSSSEVASDTSAGDASLPGPLAPV 1191
Rattus_norvegicus GSEGSTLSSDLMLKLCGEVKKPKSKARRRTTTQOMELLYADSSSEVASDTSAGDASLPGPLTPV 1195
Bos_taurus        GSEGSSLSDDLKLCGEVKKPKSKARRRTTTQOMELLYADSSSELASDSTSTGDASLPGPLTPV 1169
Equus_caballus    GSEGSTLSSDLMLKLCGEVKKPKSKARRRTTTQOMELLYADSSSELASDSTSTGDASLPGPLTPV 1189
Canis_lupus_familiaris GSEGSTLSSDLMLKLCGEVKKPKSKARRRTTTQOMELLYADSSSELASDSTSTGDASLPGPLTPV 1196
Homo_sapiens      GSEGSTLSSDLMLKLCGEVKKPKSKARRRTTTQOMELLYADSSSELASDSTSTGDASLPGPLTPV 1189
Pan_troglodytes   GSEGSTLSSDLMLKLCGEVKKPKSKARRRTTTQOMELLYADSSSELASDSTSTGDASLPGPLTPV 1189
Callithrix_jacchus GSEGSTLSSDLMLKLCGEVKKPKSKARRRTTTQOMELLYADSSSELASDSTSTGDASLPGPLTPV 1188
Macaca_mulatta    GSEGSTLSSDLMLKLCGEVKKPKSKARRRTTTQOMELLYADSSSELASDSTSTGDASLPGPLTPV 1189
Rhinatrema_bivittatum GTEGSSLSDDLKLCGEVKKPKSKARRRTTATQLELLYADSNDLASHLGAGDASLPCQLAPV 1186
Xenopus_tropicalis STEGGSLTSDLMKLCGEVKKPKSKARRRTTTQLELLYADSSSESTPDAGTGETCIPTSLPPV 1167
.....1150.....1160.....1170.....1180.....1190.....1200

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:* * : :~. ....: *~.: ***: :~: .....* ** ~:~:~:
Pavo_muticus      AETQESGMPADTNDTSARDRELIPPPSGLPSKIGSISRQPSLSEKKIPEPSPLAKRKTYE 1246
Pavo_cristatus    AETQESGMPADTNDTSARDRELIPPPSGLPSKIGSISRQPSLSEKKIPEPSPLAKRKTYE 1246
Gallus_gallus     AETQESGMTADTNDTSARDREFIPPPSGLPSKIGSISRQPSLSEKKIPEPSPLAKRKTYE 1246
Anas_platyrhynchos AETQESGVTADTNDTAARDREFIPPPSGLPSKIGSISRQPSLSEKKIPEPSPLTKRKVYD 1248
Chelonia_mydas    AEVQESGMHTDTSATSARDRELIPPPSGLPSKIGSISRQPSLSEKKIPEPSPLTKRKAYE 1248
Mus_musculus      AEGQEIGMNTETSGTSARDKELLAP-SGLPSKIGSISRQSSLSEKKVPEPSPVTRRKAYE 1250
Rattus_norvegicus AEGQETGMNTETSVPSARDKELLPP-SGLPPKIGSISRQPSVSEKKVPEPSPVTRRKAYE 1254
Bos_taurus        AEGQEIGMNTETSGTSAREKELPPP-SGFPSKIGSISRQSSVSEKKLPEPSPVTRRKAYE 1227
Equus_caballus    AEGQEIGMNTETSGTSAREKELPPP-SGFPSKIGSISRQSSLSEKKLPEPSPVTRRKAYE 1248
Canis_lupus_familiaris AEGQEIGMNTETSGTSAREKELPPP-SGFPSKIGSISRQSSLSEKKMPEPSPVTRRKAYE 1255
Homo_sapiens      AEGQEIGMNTETSGTSAREKELPPP-SGLPSKIGSISRQSSLSEKKIPEPSPVTRRKAYE 1248
Pan_troglodytes   AEGQEIGMNTETSGTSAREKELPPP-SGLPSKIGSISRQSSLSEKKIPEPSPVTRRKAYE 1248
Callithrix_jacchus AEGQEIGMNAETSGTSAREKELPPP-SGLPSKIGSISRQSSLSEKKIPEPSPVTRRKAYE 1247
Macaca_mulatta    AEGQEIGMNTETSGTSAREKELPPP-SGLPSKIGSISRQSSLSEKKIPEPSPVTRRKAYE 1248
Rhinatrema_bivittatum AEVQEMTLNNTETSGTSAREKELPPP-SGLPSKIGSISRQSSLSEKKIPEPSPVTRRKAYE 1243
Xenopus_tropicalis SEMQVSGLNIESSVNTVKEKEMLHS--GIPSRGTSISKPVTLTKRIPEQSPATRRRVYD 1225
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF14161.fst Date: Tue Feb 1 12:43:49 2022

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:      . * : : * **** .*:*****.*.***** ***.****.*. ....*****
Pavo_muticus      K T M E - K T K A K D Q K L S D S G T P E A S L S P P T S P P S R P R N E M N V F S R L T V S Q G N T S V Q Q D K S D E 1305
Pavo_cristatus    K T M E - K T K A K D Q K L S D S G T P E A S L S P P T S P P S R P R N E M N V F S R L T V S Q G N T S V Q Q D K S D E 1305
Gallus_gallus     K T M E - K T K A K D Q K L S D S G I P E A S L S P P T S P P S R P R N E M N V F S R L T V S Q G N T S V Q Q D K S D E 1305
Anas_platyrhynchos K T M E - K T K A K E Q K L S D S G T P E A S L S P P T S P P S R P R N E M N V F S R L T V S Q G N T S V Q Q D K S D E 1307
Chelonia_mydas    K A T E - K P K A K E H K H S D S G T S E A S L S P P S P P S R P R N E M N V F S R L T V S Q G N T S V Q Q D K S D E 1307
Mus_musculus      K A D - - K P K A K E H K H S D S G A S E T S L S P P S P P S R P R N E L N V F N R L T V P Q G T P S V Q Q D K S D E 1308
Rattus_norvegicus K A D - - K A K T K E Q K H S D S G A S E T S L S P P S P P S R P R N E L N V F N R L T V S Q G S A P V Q Q D K S D E 1312
Bos_taurus        K A E - - K S K A K E Q K H S D S G T S E A S L S P P S P P S R P R N E L N V F N R L T V S Q G N T S V Q Q D K S D E 1285
Equus_caballus    K A E - - K S K A K E Q K H S D S G T S E A S L S P P S P P S R P R N E L N V F N R L T V S Q G N T S V Q Q D K S D E 1306
Canis_lupus_familiaris K A E - - K S K A K E Q K H S D S G T S E A S L S P P S P P S R P R N E L N V F N R L T V S Q G N T S V Q Q D K S D E 1313
Homo_sapiens      K A E - - K S K A K E Q K H S D S G T S E A S L S P P S P P S R P R N E L N V F N R L T V S Q G N T S V Q Q D K S D E 1306
Pan_troglodytes   K A E - - K S K A K E Q K H S D S G T S E A S L S P P S P P S R P R N E L N V F N R L T V S Q G N T S V Q Q D K S D E 1306
Callithrix_jacchus K A E - - K S K A K E Q K H S D S G T S E A S L S P P S P P S R P R N E L N V F N R L T V S Q G N T S V Q Q D K S D E 1305
Macaca_mulatta    K A E - - K S K A K E Q K H S D S G T S E A S L S P P S P P S R P R N E L N V F N R L T V S Q G N T S V Q Q D K S D E 1306
Rhinatrema_bivittatum R G D - - K S K P R E P K L S D S G T S E A S L S P P S P P G R P R N E M N V F S R L T V S Q G T P A V Q Q D K S D E 1301
Xenopus_tropicalis K G G D K S I K N K E Q K F S D S G T S E A S L S P P S S P T S R P R N E K N V F S R L T V S Q A D T A F Q Q D K S D E 1285
.....1270.....1280.....1290.....1300.....1310.....1320

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**.*:****      :*:*****.: : : ***.: **** *.*****:
Pavo_muticus      S D S S L S E V H - - - - - R G I I N P F P A S K C I R T S P L Q C I Y T A E G H A K P V L C V D A T D 1352
Pavo_cristatus    S D S S L S E V H - - - - - R G I I N P F P A S K C I R T S P L Q C I Y T A E G H A K P V L C V D A T D 1352
Gallus_gallus     S D S S L S E V H - - - - - R G I I N P F P A S K C I R T S P L Q C I Y T A E G H A K P V L C V D A T D 1352
Anas_platyrhynchos S D S S L S E V H - - - - - R G I I N P F P A S K C I R S S P L Q C I Y T A E G H A K A V L C V D A T D 1354
Chelonia_mydas    S D S S L S E V H - - - - - R G I I N P F P A S K C I R S S P L Q C I H I A E G H T K A V L C V D S T D 1354
Mus_musculus      S D S S L S E V H - - - - - R G I I N P F P A S K C I R S S P L Q C V H I A E G H T K A V L C V D S T D 1355
Rattus_norvegicus S D P S L S E V H S R - - - - - S S R R G I I N P F P A C R G I R A S F L Q C V H I A E G H T K A V L C V D S T D 1364
Bos_taurus        S D S S L S E V H - R - - - - - S S R R G I I N P F P A S K G I R T S P L Q C I H I A E G H T K A V L C V D S T D 1336
Equus_caballus    S D S S L S E V H S R - - - - - S S R R G I I N P F P A S K G I R A S P L Q C I H I A E G H T K A V L C V D S T D 1358
Canis_lupus_familiaris S D S S L S E V H S R - - - - - S S R R G I I N P F P A S K G I R T S P L Q C I H I A E G H T K A V L C V D S T D 1365
Homo_sapiens      S D S S L S E V H - R - - - - - S S R R G I I N P F P A S K G I R A F P L Q C I H I A E G H T K A V L C V D S T D 1357
Pan_troglodytes   S D S S L S E V H S R - - - - - S S R R G I I N P F P A S K G I R A F P L Q C I H I A E G H T K A V L C V D S T D 1358
Callithrix_jacchus S D S S L S E V H S R - - - - - S S R R G I I N P F P A S K G I R A F P L Q C I H I A E G H T K A V L C V D S T D 1357
Macaca_mulatta    S D S S L S E V H S R - - - - - S S R R G I I N P F P A S K G I R A F P L Q C I H I A E G H T K A V L C V D S T D 1358
Rhinatrema_bivittatum S D S S L S E V H - - - - - R G I I N P F P A S K C N K T S L L Q C I H I A E G H N K A V L C V D A T D 1348
Xenopus_tropicalis S D S S M S E V H R Y R I L L C R T C S H R K G V I N P F P A A K S S K T S L L Q C I H I A E G H N K A V L C V D A T D 1345
.....1330.....1340.....1350.....1360.....1370.....1380

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*****:*****:*****:*****:
Pavo_muticus      D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S I K Y C N Y T S L V F T V S T S Y I K V W D I R D 1412
Pavo_cristatus    D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S I K Y C N Y T S L V F T V S T S Y I K V W D I R D 1412
Gallus_gallus     D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S I K Y C N Y T S L V F T V S T S Y I K V W D I R D 1412
Anas_platyrhynchos D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S I K Y C N Y T S L V F T V S T S Y I K V W D I R D 1414
Chelonia_mydas    D L L F T G S K D R T C K V W N L V T G Q E I M S L G S H P N N V S V K Y C N Y T S L V F T I S T S Y I K V W D I R D 1414
Mus_musculus      D L L F T G S K D R T C K V W N L V T G Q E I M S L G V H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R E 1415
Rattus_norvegicus D L L F T G S K D R T C K V W N L V T G Q E I M S L G V H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R E 1424
Bos_taurus        D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R D 1396
Equus_caballus    D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R D 1418
Canis_lupus_familiaris D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R D 1425
Homo_sapiens      D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R D 1417
Pan_troglodytes   D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R D 1418
Callithrix_jacchus D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S I K Y C N Y T S L V F T V S T S Y I K V W D I R D 1417
Macaca_mulatta    D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R D 1418
Rhinatrema_bivittatum D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R D 1408
Xenopus_tropicalis D L L F T G S K D R T C K V W N L V T G Q E I M S L G G H P N N V S V K Y C N Y T S L V F T V S T S Y I K V W D I R D 1405
.....1390.....1400.....1410.....1420.....1430.....1440

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF2L1pep.fst Tue Feb 1 12:43:49 2022

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*****:*****: *:*.* ****:*:*.******:*:******:*****:
Pavo_muticus      SAKCVRTLSTSSGQAMPGDVCSGSTNRTVTIPAGENQINQIALNPTGTFLYAAAGNSVRMW 1472
Pavo_cristatus    SAKCVRTLSTSSGQAMPGDVCSGSTNRTVTIPAGENQINQIALNPTGTFLYAAAGNSVRMW 1472
Gallus_gallus     SAKCVRTLSTSSGQAMPGDVCSGSTNRTVTIPAGENQINQIALNPTGTFLYAAAGNSVRMW 1472
Anas_platyrhynchos SAKCVRTLSTSSGQAMPGDVCSGSTNRTVTIPAGENQINQIALNPTGTFLYAAAGNSVRMW 1474
Chelonia_mydas    SAKCIRTLSTSSGQMMSGDGCSTNRTVTIPAGENQINQIALNPTGTFLYAASGNAVRMW 1474
Mus_musculus      SAKCIRTLSTSSGQVTLGEACASTSRTVAIPSGESQINQIALNPTGTFLYAASGNAVRMW 1475
Rattus_norvegicus SAKCIRTLSTSSGQVTLGEACASTSRTVAIPSGESQINQIALNPTGTFLYAASGNAVRMW 1484
Bos_taurus        SAKCVRTLSTSSGLVTVGDACASTSRTVAIPSGENQINQIALNPTGTFLYAASGNAVRMW 1456
Equus_caballus    SAKCIRTLSTSSGQVTLGDACASTSRTVAIPSGENQINQIALNPTGTFLYAASGNAVRMW 1478
Canis_lupus_familiaris SAKCIRTLSTSSGQVTLGDACASTSRTVAIPSGENQINQIALNPTGTFLYAASGNAVRMW 1485
Homo_sapiens      SAKCIRTLSTSSGQVTLGDACASTSRTVAIPSGENQINQIALNPTGTFLYAASGNAVRMW 1477
Pan_troglodytes   SAKCIRTLSTSSGQVTLGDACASTSRTVAIPSGENQINQIALNPTGTFLYAASGNAVRMW 1478
Callithrix_jacchus SAKCIRTLSTSSGQVTLGDACASTSRTVAIPSGENQINQIALNPTGTFLYAASGNAVRMW 1477
Macaca_mulatta    SAKCIRTLSTSSGQVTLGDACASTSRTVAIPSGENQINQIALNPTGTFLYAASGNAVRMW 1478
Rhinatrema_bivittatum SAKCLRTLSTSSGQVMPGDNCAGSQNRVTIPAGENQINQIALNSTGTFLYAAAGNAVRMW 1468
Xenopus_tropicalis SAKCIRTLSTSSGQVMTWDSAGSQSRTVTIPPGENQINQIALNPTGTFLYAAAGNSVRMW 1465
.....1450.....1460.....1470.....1480.....1490.....1500

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*****:*****: *:*.* ****:*:*.******:*:******:*****:
Pavo_muticus      DLKRFQSTGKLTGHLGPVMCLTVDRISNGQDLIVTGSKDHYIKMFDVTEGALGVSPTHN 1532
Pavo_cristatus    DLKRFQSTGKLTGHLGPVMCLTVDRISNGQDLIVTGSKDHYIKMFDVTEGALGVSPTHN 1532
Gallus_gallus     DLKRFQSTGKLTGHLGPVMCLTVDRISNGQDLIVTGSKDHYIKMFDVTEGALGVSPTHN 1532
Anas_platyrhynchos DLKRFQSTGKLTGHLGPVMCLTVDRISNGQDLIVTGSKDHYIKMFDVTEGALGVSPTHN 1534
Chelonia_mydas    DLKRFQSTGKLTGHLGPVMCLTVDRISNGQDLIVTGSKDHYIKMFDVTEGALGTVSPTHN 1534
Mus_musculus      DLKRFQSTGKLTGHLGPVMCLTVDQISNGQDLIITGSKDHYIKMFDVTEGALGTVSPTHN 1535
Rattus_norvegicus DLKRFQSTGKLTGHLGPVMCLTVDQISNGQDLIITGSKDHYIKMFDVTEGALGTVSPTHN 1544
Bos_taurus        DLKRFQSTGKLTGHLGPVMCLTVDRISNGQDLIITGSKDHYIKMFDVTEGALGTVPTHN 1516
Equus_caballus    DLKRFQSTGKLTGHLGPVMCLTVDQISNGQDLIITGSKDHYIKMFDVTEGALGTVSPTHN 1538
Canis_lupus_familiaris DLKRFQSTGKLTGHLGPVMCLTVDQISNGQDLIVTGSKDHYIKMFDVTEGALGTVSPTHN 1545
Homo_sapiens      DLKRFQSTGKLTGHLGPVMCLTVDQISNGQDLIITGSKDHYIKMFDVTEGALGTVSPTHN 1537
Pan_troglodytes   DLKRFQSTGKLTGHLGPVMCLTVDQISNGQDLIITGSKDHYIKMFDVTEGALGTVSPTHN 1538
Callithrix_jacchus DLKRFQSTGKLTGHLGPVMCLTVDQISNGQDLIITGSKDHYIKMFDVTEGALGTVSPTHN 1537
Macaca_mulatta    DLKRFQSTGKLTGHLGPVMCLTVDQISNGQDLIITGSKDHYIKMFDVTEGALGTVSPTHN 1538
Rhinatrema_bivittatum DLKRFQSTGKLTGHLGPVMCLTVDQISNGQDLIITGSKDHYIKMFDVTEGALGTVSPTHC 1528
Xenopus_tropicalis DLKRFQSTGKLTGHLGPVMCLTVDQISANGQDLIISGSKDHYIKMFDITEGALGVSPTYC 1525
.....1510.....1520.....1530.....1540.....1550.....1560

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* ***** * *.******:*****: *:*.* ****:*:*.******:*:*
Pavo_muticus      FEPPHYDGIEALAITGDNLFSGSRDNGIKKWDLAQKDLLQQVPAHKDWVCALGLVPG-A 1591
Pavo_cristatus    FEPPHYDGIEALAITGDNLFSGSRDNGIKKWDLAQKDLLQQVPAHKDWVCALGLVPG-A 1591
Gallus_gallus     FEPPHYDGIEALAIMGDNLFSGSRDNGIKKWDLAQKDLLQQVPAHKDWVCALGLVPG-A 1591
Anas_platyrhynchos FEPPHYDGIEALAIMGDNLFSGSRDNGIKKWDLAQKDLLQQVPAHKDWVCALSLLPAGA 1594
Chelonia_mydas    FEPPHYDGIEALIIIGDTLFSGSRDNGIKKWDLAQKDLLQQVPAHKDWVCALGLVPG-S 1593
Mus_musculus      FEPPHYDGIEALAIQGDNLFSGSRDNGIKKWDLAQKGLLQQVPAHKDWVCALGLVPG-H 1594
Rattus_norvegicus FEPPHYDGIEALAIQGDNLFSGSRDNGIKKWDLAQKGLLQQVPAHKDWVCALGLVPG-H 1603
Bos_taurus        FEPPHYDGIEALTIHGDNLFSGSRDNGIKKWDLAQKDLLQQVPAHKDWVCALEVVP-G-H 1575
Equus_caballus    FEPPHYDGIEALTIQGDNLFSGSRDNGIKKWDLAQKDLLQQVPAHKDWVCALGVVPG-H 1597
Canis_lupus_familiaris FEPPHYDGIEALTIQGDNLFSGSRDNGIKKWDLAQKDLLQQVPAHKDWVCALGVVPG-H 1604
Homo_sapiens      FEPPHYDGIEALTIQGDNLFSGSRDNGIKKWDLTQKDLLQQVPAHKDWVCALGVVPG-H 1596
Pan_troglodytes   FEPPHYDGIEALTIQGDNLFSGSRDNGIKKWDLTQKDLLQQVPAHKDWVCALGVVPG-H 1597
Callithrix_jacchus FEPPHYDGIEALTIQGDNLFSGSRDNGIKKWDLTQKDLLQQVPAHKDWVCALGVVPG-H 1596
Macaca_mulatta    FEPPHYDGIEALTIQGDNLFSGSRDNGIKKWDLTQKDLLQQVPAHKDWVCALGVVPG-H 1597
Rhinatrema_bivittatum FVPPHYDGIEALTISGDNLFSGSRDNGIKKWDLARKDLLQQLPNAHKDWVCALGIIP-G 1587
Xenopus_tropicalis FEPPHYDGIEALIIISGDNLFSGSRDNGIKKWDLRSKDLLQQVPAHKDWVCALGLVPG-C 1584
.....1570.....1580.....1590.....1600.....1610.....1620

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF21a.pep Tue Feb 1 12:43:49 2022

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.:***** **:** *** :*::*:*****.* :*:***:***:*****:..
Pavo_muticus      PVLLSGCRGGTLKLWNMDTFAPIGEMKGHDS PINAICTNSSQIFTASDDRTVRIWKARNV 1651
Pavo_cristatus    PVLLSGCRGGTLKLWNVDTFAPIGEMKGHDS PINAICTNSSQIFTASDDRTVRIWKARNV 1651
Gallus_gallus     PVLLSGCRGGALKLWNVDTFAPIGEMKGHDS PINAICTNSSQIFTASDDRTVRIWKARNV 1651
Anas_platyrhynchos PVLLSGCRGGILKLWNVDTFAPIGEMKGHDS PINAICTNSSSHIFTAADDRTVRIWKARNV 1654
Chelonia_mydas    SVLLSGCRGGILKLWNVDTFIPVGE MRGHDSPINAICTNSSSHIFTASDDRTVRIWKARNL 1653
Mus_musculus      PVLLSGCRGGILKLWNVDTFVPVGE MRGHDSPINAICVNSTHVFTAADDRTVRIWKAHNL 1654
Rattus_norvegicus PVLLSGCRGGILKLWNVDTFVPVGE MRGHDSPINAISVNSTHVFTAADDRTVRIWKAHNL 1663
Bos_taurus        PVLLSGCRGGILKLWNIDTFVPVGE MRGHESPINAICVNSTHIFTAADDRTVRIWKTRNL 1635
Equus_caballus    PVLLSGCRGGILKLWNMDTFVPVGE MRGHDSPINAICVNSTHIFTAADDRTVRIWKARNL 1657
Canis_lupus_familiaris PVLLSGCRGGILKLWNMDTFVPVGE MRGHESPINAICVNSTHIFTAADDRTVRIWKARNL 1664
Homo_sapiens      PVLLSGCRGGILKVWNMDTFMPVGE MRGHDSPINAICVNSTHIFTAADDRTVRIWKARNL 1656
Pan_troglodytes   PVLLSGCRGGILKVWNMDTFMPVGE MRGHDSPINAICVNSTHIFTAADDRTVRIWKARNL 1657
Callithrix_jacchus PVLLSGCRGGILKVWNMDTFMPVGE MRGHDSPINAICVNSTHIFTAADDRTVRIWKARNL 1656
Macaca_mulatta    PVLLSGCRGGILKVWNMDTFMPVGE MRGHDSPINAICVNSTHIFTAADDRTVRIWKARNL 1657
Rhinatrema_bivittatum PVLLSGCRGGILKLWNADTF LPIGDMKGHDS PINAICTNYNQIFTAADDRTVRIWRARGL 1647
Xenopus_tropicalis PVLLSGCRGGILKLWNVDTFFAIGEIKGHDSPINAICTNSSSHIFTASDDQTVRIWKAHGS 1644
.....1630.....1640.....1650.....1660.....1670.....1680

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**::** .* .** :*.
Pavo_muticus      IDGQISDAGDASEDLASN 1669
Pavo_cristatus    IDGQISDAGDASEDLASN 1669
Gallus_gallus     IDGQISDAGDASEDLASN 1669
Anas_platyrhynchos IDGQISDTGDASEDLASN 1672
Chelonia_mydas    LDGHISDTGDANEDIASN 1671
Mus_musculus      QDGQLSDTGDLGEDIASN 1672
Rattus_norvegicus QDGQISDTGDPGEDSTSN 1681
Bos_taurus        QDGQISDTGDLGEDIASN 1653
Equus_caballus    QDGQVSDTGDLGEDTASS 1675
Canis_lupus_familiaris QDGQISDIGDLGEDIASN 1682
Homo_sapiens      QDGQISDTGDLGEDIASN 1674
Pan_troglodytes   QDGQISDTGDLGEDIASN 1675
Callithrix_jacchus QDGQISDTGDLGEDIASS 1674
Macaca_mulatta    QDGQISDTGDLGEDTASN 1675
Rhinatrema_bivittatum LDGQISDAADTNEDIASN 1665
Xenopus_tropicalis LDGQMSDTGDTSEDVASN 1662
.....1690.....

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