

Human\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Cattle\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Monkey\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
chimpanzee\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Zebrafish\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Hamster\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Rat\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Opossum\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Dog\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Horse\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Platyopus\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Chicken\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
Mouse\_IIIB TITDCYQRLEFLDAILDYLITKH---LYEDPQHSFGVLTDLRSALVMTIFASLAVKYDYHKYFKAVSPFLFVID  
SeaUrchin\_IIIB SITDCYQRLEFLDAILDYLITRH---LYDHTNLSFGALTDLRSALVMTIFASLAVKNEFHVKFYKAYTANMFQVID  
DrosophilaDcr1\_IIIB RLTDYQRLEFLDAILDYLITRH---LYEDPQHSFGVLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
Mosquito\_IIIB RLTDYQRLEFLDAILDYLITRH---LYEDPQHSFGVLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
HoneyBee\_IIIB RLTDYQRLEFLDAILDYLITRH---LYEDPQHSFGVLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
Beetle\_IIIB RLTDYQRLEFLDAILDYLITRH---LYEDPQHSFGVLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
C.elegan\_IIIB RVTGCVQRLEFLDAILDYLITRH---LYEDPQHSFGVLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
Medic\_IIIB SGVSCYQRLEFLDAILDYLITRH---LFFSYTDLPPGRLTDLRAAAVMTENFARVAVKHKHLHLVLRHGSALQKQIK  
ArabidopsisDcl1\_IIIB SGVSCYQRLEFLDAILDYLITRH---LFFSYTDLPPGRLTDLRAAAVMTENFARVAVKHKHLHLVLRHGSALQKQIK  
Rice\_IIIB GKACYQRLEFLDAILDYLITRH---LFFSHKDTNLSFGALTDLRSALVMTIFASLAVKNEFHVKFYKAYTANMFQVID  
ArabidopsisDcl3\_IIIB RESYVQRLEFLDAILDYLITRH---LFFSYTDLPPGRLTDLRAAAVMTENFARVAVKHKHLHLVLRHGSALQKQIK  
ArabidopsisDcl2\_IIIB EIPRCYQRLEFLDAILDYLITKH---LYDKYPCLSGGLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
V.vinifera\_IIIB EIPRCYQRLEFLDAILDYLITKH---LYDKYPCLSGGLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
N.Crassa\_IIIB ERLPSYQRLEFLDAILDYLITKH---LFRKFPADDPQWLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
C.Parasitica\_IIIB EKVPYQRLEFLDAILDYLITKH---LFRKFPADDPQWLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
C.Globosum\_IIIB EKLPYQRLEFLDAILDYLITKH---LFRKFPADDPQWLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
Aspergillus\_IIIB YRFPVQRLEFLDAILDYLITKH---LFRKFPADDPQWLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
N.Fischeri\_IIIB YRFPVQRLEFLDAILDYLITKH---LFRKFPADDPQWLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
C.Immitis\_IIIB ARVFCYQRLEFLDAILDYLITKH---LYRNFPLADDPQWLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
G.Zeae\_IIIB GNVPYQRLEFLDAILDYLITKH---LYRNFPLADDPQWLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
mouse\_Q8R418\_7 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Hamster\_ABK28790\_1 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Rat\_EDL81806\_1 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
human\_NP085124\_4 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Monkey\_XP001100868\_1 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Chimpanzee\_XP001154199\_4 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Dog\_XP868526\_2 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Horse\_XP001496219\_1 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Cattle\_NP976235\_1 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Opossum\_XP001367933\_1 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Platyopus\_XP001510982\_1 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Chicken\_NP001035555\_1 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Zebrafish\_XP683474\_2 SDGFNLERLEMLDGSFLKHAITTY---LFCYTPDAHEGRLSYMRSKKVS---CNLYRLGKKGKGLPSRMVVSIFDPPVNW  
DrosophilaDcr1\_NP524453\_18 NDGINLERLEMLDGSFLKHAITTY---LYTYENYVHEGKLSHLRSKQVSNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Mosquito\_EAT47261\_4 NDGINLERLEMLDGSFLKHAITTY---LYTYENYVHEGKLSHLRSKQVSNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Beetle\_XP968993\_1 NDGINLERLEMLDGSFLKHAITTY---LYTYENYVHEGKLSHLRSKQVSNLYRLGKKGKGLPSRMVVSIFDPPVNW  
HoneyBee\_XP624510\_1 NDGINLERLEMLDGSFLKHAITTY---LYTYENYVHEGKLSHLRSKQVSNLYRLGKKGKGLPSRMVVSIFDPPVNW  
SeaUrchin\_XP790894\_1 SDGFNLERLEMLDGSFLKHAITTY---LYCTYDNIHEGKLSHLRSKQVSNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Medic\_AB032724\_1 EETFVCYERLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
ArabidopsisDcl1\_NP171612\_5 EETFVCYERLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
Rice\_NP001045148\_16 EETFVCYERLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
ArabidopsisDcl3\_NP189978\_1 EETFVCYERLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
ArabidopsisDcl2\_NP566199\_6 EETFVCYERLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
V.vinifera\_CAN7284\_2 QEGFHLESLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
C.Parasitica\_ABB00356\_1 RTPENYERLEFLDAILDYLITKH---LAATKHLPEGLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
C.Immitis\_XP001245992\_1 REASNYERLEFLDAILDYLITKH---LAATKHLPEGLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
N.Crassa\_XP61898\_1 GMGNVYERLEFLDAILDYLITKH---LYTLIPDKAEFYHVRMLLICNLYRLGKKGKGLPSRMVVSIFDPPVNW  
C.Globosum\_EA088115\_1 GMGNVYERLEFLDAILDYLITKH---LYTLIPDKAEFYHVRMLLICNLYRLGKKGKGLPSRMVVSIFDPPVNW  
G.Zeae\_XP389201\_1 GMGNVYERLEFLDAILDYLITKH---LYTLIPDKAEFYHVRMLLICNLYRLGKKGKGLPSRMVVSIFDPPVNW  
Aspergillus\_XP001274473\_12 GMGNVYERLEFLDAILDYLITKH---LYTLIPDKAEFYHVRMLLICNLYRLGKKGKGLPSRMVVSIFDPPVNW  
N.Fischeri\_XP001259517\_1 GMGNVYERLEFLDAILDYLITKH---LYTLIPDKAEFYHVRMLLICNLYRLGKKGKGLPSRMVVSIFDPPVNW  
C.elegan\_NP498761\_3 ADMGSLERLEFLDAILDYLITKH---LYHTLLDQHEGKLSFARSKEVSNLYRLGKKGKGLPSRMVVSIFDPPVNW  
ArabidopsisDcl4\_IIIB HGGCVQRLEFLDAILDYLITKH---FFVTFPKLPQGLTDLRSALVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
ArabidopsisDcl1\_NP197532\_1 HERTLSYERLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
DrosophilaDcr2\_IIIB RTIGSYQRLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
M.Circinelloides\_IIIB SSVPCYQRLEFLDAILDYLITKH---LFEKYHATPPGTLHDLRKSVMNLDLSVLICQLGLHWHIRHFTFSPFAVK  
S.Pombe\_IIIB CIYENYQRLEFLDAILDYLITKH---LYKKYPNATSGELTDYSKVFVQCNLYRLGKKGKGLPSRMVVSIFDPPVNW  
M.Circinelloides\_CAK32533\_1 GLEKDYQRLEFLDAILDYLITKH---VFTVLPISNEFELTDSRMRMISNLYRLGKKGKGLPSRMVVSIFDPPVNW  
S.Pombe\_Q09884\_2 QLFNFDYRLEFLDAILDYLITKH---VFLKPDQEQYQLHNRKRIISNLYRLGKKGKGLPSRMVVSIFDPPVNW  
DrosophilaDcr2\_NP523778\_27 ADVDMERLEFLDAILDYLITKH---LASKYSDWNEGTLTEVKSCLVSNLYRLGKKGKGLPSRMVVSIFDPPVNW  
TetrahymenaDcr2p\_IIIB NYNLCVQRLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
Giardia\_XP71746\_1 SHTDVQRLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
TetrahymenaDcr1p\_IIIB HYFODYQRLEFLDAILDYLITKH---LFLKHPKDEGQLTDMRSASVMTIFASLAVRHDFHKKFRRHLSFGLNDVID  
TetrahymenaDcr2p\_BAD34723\_1 SKESLRYERLEFLDAILDYLITKH---LYFEPKMSMEDHLVHRTIISNLYRLGKKGKGLPSRMVVSIFDPPVNW  
TetrahymenaDcr2p\_XP001018276\_2 NKTNLELEFLDAILDYLITKH---LYLHLNQSNEALMIRTIPIKLYRLGKKGKGLPSRMVVSIFDPPVNW  
Giardia\_IIIB RTPHVYQRLEFLDAILDYLITKH---TIFPLRLILQIALTPHYVQKLELGLDFAFLKCSALHLHALHPLTTEGALTR  
Clustal Consensus

Human\_IIIB D--FVQFQ-----LEKNEQGMDS  
Cattle\_IIIB D--FVQFQ-----LEKNEQGMDS  
Monkey\_IIIB D--FVQFQ-----LEKNEQGMDS  
chimpanzee\_IIIB D--FVQFQ-----LEKNEQGMDS  
Zebrafish\_IIIB D--FVQFQ-----LEKNEQGMDS  
Hamster\_IIIB D--FVQFQ-----LEKNEQGMDS  
Rat\_IIIB D--FVQFQ-----LEKNEQGMDS  
Opossum\_IIIB D--FVQFQ-----LEKNEQGMDS  
Dog\_IIIB D--FVQFQ-----LEKNEQGMDS  
Horse\_IIIB D--FVQFQ-----LEKNEQGMDS  
Platyopus\_IIIB D--FVQFQ-----LEKNEQGMDS  
Chicken\_IIIB D--FVQFQ-----MEKNEQGMDS

Mouse IIIB D--FVKFQ-----LEKNEMQGMDSQ  
SeaUrchin IIIB N--FVTFV-----DAKNNEALGMDSDQ  
DrosophilaDcr1\_IIIB R--FVRIQ-----QENGHGCISEYY  
Mosquito IIIB R--FVRIQ-----QDNHGHIISEYY  
HoneyBee IIIB R--FVRIQ-----EENHGHISSEYY  
Beetle IIIB K--FVRLQ-----EDSGHTLVDELY  
C.elegan IIIB K--FVKLC-----SERNFDTNFAE  
Medic IIIB D--FVKEV-----QDEL-SKPGFNS  
ArabidopsisDcl1\_IIIB E--FVKEV-----QTES-SKPGFNS  
Rice IIIB E--YVNRLL-----EGSSMDKVELLS  
ArabidopsisDcl3\_IIIB D--YLMSEF-----Q----KPDETG  
ArabidopsisDcl2\_IIIB R--TVSEF-----E----QSSLOST  
V.Vinifera IIIB V--TVGBF-----D----KLPXEST  
N.Crassa IIIB E--YVTEI-----EEALETAQAEAI  
C.Parasitica IIIB E--YVTEI-----TEARRAAEDAEE  
C.Globosum IIIB ---P-----  
Aspergillus IIIB Y--YVEEI-----ETAEAESEGAV--  
N.Fischeri IIIB H--YVEEI-----ESAQAESRGAV--  
C.Immitis IIIB N--YVEEI-----EALESSEDDP--  
G.Zeae IIIB D--YVAEL-----ELAEETARQEA  
mouse\_Q8R418\_7 P--PGYVNVQDKSNSEKWEKDEMTKDCLLANGKLGECACEE--EED--LTWRAPKEEAEDEDDFLEYDQEHIFIDSMILMG  
Hamster ABK28790\_1 P--PGYVNVQDKSNAEKWEKDEMTKDCLLANGKLGKDCCEE--EEA--LTWRAPKEEAEYEDDFLEYDQEHIFIDSMILMG  
Rat EDL81806\_1 P--PGYVNVQDKSNSEKWEKDEMTKDCLLANGKLGEDCEE--EEEEELAWRAPKEEAEYEDDLLEYDQEHIFIDSMILMG  
human NP085124\_4 P--PGYVNVQDKSNTDKWEKDEMTKDCMLANGKLDDEYEEDEEEESLMWRAPKEEAEYEDDFLEYDQEHIFIDNMLMG  
Monkey XP001100868\_1 P--PGYVNVQDKSNTDKWEKDEMTKDCMLANGKLDDEYEEDEEEESLMWRAPKEEAEYEDDFLEYDQEHIFIDNMLMG  
Chimpanzee XP001154199\_4 P--PGYVNVQDKSNTDKWEKDEMTKDCMLANGKLDDEYEEDEEEESLMWRAPKEEAEYEDDFLEYDQEHIFIDNMLMG  
Dog XP868526\_2 P--PGYVNVQDKSNADKWEKDEMTKDCMLANGKLDDEYEEDEEEESLMWRAPKEDADYEDDFLEYDQEHIFIDNMLMG  
Horse XP0011496219\_1 P--PGYVNVQDKSNTDKWEKDEMTKDCMLANGKLDDEYEEDEEEESLMWRAPKEDADYEDDFLEYDQEHIFIDNMLMG  
Cattle NP976235\_1 P--PGYVNVQDKSNTDKWEKDEMTKDCMLANGKLDDEYEEDEEEESLMWRAPKEDADYEDDFLEYDQEHIFIDNMLMG  
Opossum XP0011367933\_1 P--PGYVNVQDKSNTDKWEKDEMTKDCMLANGKLDDEYEEDEEEESLMWRAPKEDADYEDDFLEYDQEHIFIDNMLMG  
Platypus XP0011510982\_1 P--PGYVNVQDKSNTDKWEKDEMTKDCMLANGKLDDEYEEDEEEESLMWRAPKEDADYEDDFLEYDQEHIFIDNMLMG  
Chicken NP001035555\_1 P--PGYVNVQDKSNTDKWEKDEMTKDCMLANGKLDDEYEEDEEEESLMWRAPKEDADYEDDFLEYDQEHIFIDNMLMG  
Zebrafish XP683474\_2 P--PGYVNVQDKSSTDKWDSDEQTYCCLANGKASDDEDEDDDEPEEAEEVPSKEDVNVEDDLEYYYEHIRFIDSMILG  
DrosophilaDcr1 NP524453\_18 P--PCYYV-----FKELEKALIEAKIP-TH-----HWKLADLLDIKN--LSS--VQ--ICEMVREK  
Mosquito EAT47261\_4 P--PCYYV-----FKELEALIDAKIP-AC-----HWNLADLPDIKQ--LSS--EE--ICRLVKER  
Beetle XP968993\_1 P--PCFYV-----FKELEALIDAQFP-AN-----CWTVADMAATRD--MTL--DD--ICSMVRQR  
HoneyBee XP624510\_1 P--PCYYV-----FKELEALIESGVF-ST-----LWNQADIPALQA--VNP--FE--ITQLVRET  
SeaUrchin XP790894\_1 P--PCLLVKES--SRPVEKETEEDPDAGVF-ID-----TWDPTSTVEGVDD--FDD--DDF--SDOCWEEN  
Medic ABD32724\_1 A--PGVLP-----VFDED--TKDEESSLF-----DQERSIFK--AER--MD--NTDCEFEEN  
ArabidopsisDcl1 NP171612\_5 A--PGVPP-----VFDED--TKDGSSSFF-----DEEQ--K--PVS--EE--NSDVFEDG  
Rice NP001045148\_16 A--PGQLS-----IRPSP--CECPV-----KS--E--EVP--TD--DIHIIDDK  
ArabidopsisDcl3 NP189978\_1 A--PGQFS-----LFPVP--CKCGI-----DTR--E--EVP--LD--PKFFTENN  
ArabidopsisDcl2 NP566199\_6 V--PGQSS-----A-----AYS--LV--NDTLPEER  
V.Vinifera CAN77284\_2 I--AGDQS-----R-----SHV--FG--EELLSSTR  
C.Parasitica ABB00356\_1 P--P-YMS-----DLAKQDE  
C.Immitis XP001245992\_1 P--S-YNT-----DHINTGDM  
N.Crassa XP961898\_1 P--EGLIL-----KKGKSKD--  
C.Globosum EAQ88115\_1 P--EGLTL-----KKGKRK--  
G.Zeae XP389201\_1 P--D-LTL-----RKGAFAK--  
Aspergillus XP001274473\_12 P--DGLTL-----LHGKDHST  
N.Fischeri XP001259517\_1 P--DGLTL-----LHGKDHSK  
C.elegan NP498761\_3 P--PCYIYPTCDFKAPNTDDAEKNDIEIRILDG-----QVIEEKPKNTGNDIGGVSKSTTDGIEITI  
ArabidopsisDcl4 IIIB D--YINFL-----ASSPLAG  
ArabidopsisDcl1 NP197532\_1 FGHRCRVT-----CDEVASKEVHSLN  
DrosophilaDcr2\_IIIB KFNVFQESQGHRTN--YVRILLEADVQPTP-----LDLDELDMTELPHANK  
M.Circinelloides IIIB Q--FQELV-----VASQDEKG  
S.Pombe IIIB E--YQELI-----EAFRETAENPWF  
M.Circinelloides\_CAK32533\_1 P--PNYLC-----K--DSSAEMIK  
S.Pombe Q09884\_2 P--YGFQK-----STKDFCRY  
DrosophilaDcr2 NP523778\_27 P--PGISLPHNVLALMRENPEFAKIIIPHNN-----LRDLALGDEESLVKGNCSDIINYRVEGCG  
TetrahymenaDcr2p IIIB LLLNNVEMFPMG-----DTSIMYDT  
Giardia XP771746\_1 Q--FIEDCN-----LNTKFKESV  
TetrahymenaDcr1p\_IIIB IKYEIADVDDDEQNFQKEKEPEDEYKADQRNKN-----KKGNEEDGDAENE  
TetrahymenaDcr2p\_BAD34723\_1 N--LFLNLN-----SFEAPQDQK  
TetrahymenaDcr1p\_XP001018276\_2 MRQSAETN-----SVLGRLTRFR  
Giardia IIIB  
Clustal Consensus

Human IIIB LRRSEDEEKEE-----  
Cattle IIIB LRRSEDEEKEE-----  
Monkey IIIB LRRSEDEEKEE-----  
chimpanzee IIIB LRRSEDEEKEE-----  
Zebrafish IIIB LRRSEDEEKEE-----  
Hamster IIIB LRRSEDEEKEE-----  
Rat IIIB LRRSEDEEKEE-----  
Opossum IIIB LRRSEDEEKEE-----  
Dog IIIB LRRSEDEEKEE-----  
Horse IIIB LRRSEDEEKEE-----  
Platypus IIIB LRRSEDEEKEE-----  
Chicken IIIB LRRSEDEEKEE-----  
Mouse IIIB LRRSEDEEKEE-----  
SeaUrchin IIIB LKYSMDGGEQEEES-----  
DrosophilaDcr1\_IIIB LLSEEECDDAED-----  
Mosquito IIIB LISDEECDEAED-----  
HoneyBee IIIB LIGEEECDEAED-----  
Beetle IIIB LVVET--EVED-----  
C.elegan IIIB MYMVTTEEEIDEG-----  
Medic IIIB FGLGD-----  
ArabidopsisDcl1\_IIIB FGLGD-----  
Rice IIIB DGLP-----  
ArabidopsisDcl3\_IIIB RSIPS-----  
ArabidopsisDcl2\_IIIB FGWES-----D-----



Monkey\_XP001100868\_1  
 Chimpanzee\_XP001154199\_4  
 Dog\_XP868526\_2  
 Horse\_XP001496219\_1  
 Cattle\_NP976235\_1  
 Opossum\_XP001367933\_1  
 Platypus\_XP001510982\_1  
 Chicken\_NP001035555\_1  
 Zebrafish\_XP683474\_2  
 DrosophilaDcrl1\_NP524453\_18  
 Mosquito\_EAT47261\_4  
 Beetle\_XP968993\_1  
 HoneyBee\_XP24510\_1  
 SeaUrchin\_XP790894\_1  
 Medicago\_ABD32724\_1  
 ArabidopsisDcrl1\_NP171612\_5  
 Rice\_NP001045148\_16  
 ArabidopsisDcrl3\_NP189978\_1  
 ArabidopsisDcrl2\_NP566199\_6  
 V.Vinifera\_CAN77284\_2  
 C.Parasitica\_ABB00356\_1  
 C.Immitis\_XP001245992\_1  
 N.Crassa\_XP961898\_1  
 C.Globosum\_EAQ88115\_1  
 G.Zeae\_XP389201\_1  
 Aspergillus\_XP001274473\_12  
 N.Fischeri\_XP001259517\_1  
 C.elegans\_NP498761\_3  
 ArabidopsisDcrl4\_IIIB  
 ArabidopsisDcrl4\_NP197532\_1  
 DrosophilaDcrl2\_IIIB  
 M.Circinelloides\_IIIB  
 S.Pombe\_IIIB  
 M.Circinelloides\_CAK32533\_1  
 S.Pombe\_Q9884\_2  
 DrosophilaDcrl2\_NP523778\_27  
 TetrahymenaDcrl2p\_IIIB  
 Giardia\_XP771746\_1  
 TetrahymenaDcrl1p\_IIIB  
 TetrahymenaDcrl2p\_BAD34723\_1  
 TetrahymenaDcrl1p\_XP001018276\_2  
 Giardia\_IIIB  
 Clustal Consensus

GKQISISYDLHTEQCIADKSIADCV~~E~~ALLG~~C~~YLTS~~C~~GERA-AQLFLC~~S~~LGLKVL~~P~~VIK-  
 GKQISISYDLHTEQCIADKSIADCV~~E~~ALLG~~C~~YLTS~~C~~GERA-AQLFLC~~S~~LGLKVL~~P~~VIK-  
 GKQISISYDLHTEQCIADKSIADCV~~E~~ALLG~~C~~YLTS~~C~~GERA-AQLFLC~~S~~LGLKVL~~P~~NLS-  
 GKQISISYDLHTEQCIADKSIADCV~~E~~ALLG~~C~~YLTS~~C~~GERA-AQLFLC~~S~~LGLKVL~~P~~VIK-  
 GKQISISYDLHTEQCIADKSIADCV~~E~~ALLG~~C~~YLTS~~C~~GERA-AQLFLC~~S~~LGLKVL~~P~~VIK-  
 GKQISISYDLHTEQCIADKSIADCV~~E~~ALLG~~C~~YLTS~~C~~GERA-AQLFLC~~S~~LGLKVL~~P~~VIK-  
 GKQISISYDLHTEQCIADKSIADCV~~E~~ALLG~~C~~YLTS~~C~~GERA-AQLFLC~~S~~LGLKVL~~P~~VIK-  
 GKQISISYDLHTEQCIADKSIADCV~~E~~ALLG~~C~~YLTS~~C~~GERA-AQLFLC~~S~~LGLKVL~~P~~VIK-  
 GKQISISYDLHTEQCIADKSIADCV~~E~~ALLG~~C~~YLTS~~C~~GERA-AQLFLC~~S~~LGLKVL~~P~~PEK-  
 ---FIPYNLV~~S~~QHSI~~P~~DKSIADCV~~E~~ALIG~~A~~YLIE~~C~~GP~~R~~G-ALLFMA~~W~~LGV~~R~~VL~~P~~IT~~R~~-  
 ---FIPYNLV~~T~~QHSI~~P~~DKSIADCV~~E~~ALIG~~A~~YLIE~~C~~GP~~R~~G-ALLLMA~~W~~LGI~~R~~VL~~P~~VYE-  
 ---IIPYNLV~~T~~QHSI~~P~~DKSIADCV~~E~~ALIG~~A~~YLIE~~C~~GP~~R~~G-ALLFMA~~W~~LGI~~R~~VL~~P~~QLE-  
 ---FIPYNLV~~T~~QHSI~~P~~DKSIADCV~~E~~ALIG~~A~~YLIE~~C~~GP~~R~~G-ALLFMA~~W~~LGI~~H~~VL~~P~~TEE-  
 ---QLPYE~~I~~HTQHSMS~~D~~KSIADCV~~E~~ALIG~~C~~YL~~S~~CG~~F~~RS-ALLIMAM~~W~~GLD~~V~~LPT~~I~~D-  
 ---LESDSSSY~~R~~VLSS~~S~~KT~~L~~ADV~~E~~ALIG~~V~~YV~~E~~GG~~K~~NA-ANHLM~~K~~WIG~~I~~HI~~E~~DPD-  
 ---LEGLDSSY~~R~~VLSS~~S~~KT~~L~~ADV~~E~~ALIG~~V~~YV~~E~~GG~~K~~IA-ANHLM~~K~~WIG~~I~~GH~~V~~EDDPD-  
 ---KACDK~~G~~HRW~~M~~CS~~K~~TIADCV~~E~~ALIG~~A~~YV~~E~~GG~~L~~RA-AMAVL~~K~~WLG~~I~~GA~~E~~IED-  
 ---KSCDM~~G~~HRW~~V~~SS~~S~~SV~~S~~DC~~A~~EALIG~~A~~YV~~E~~GG~~L~~SA-ALHMM~~K~~WLG~~I~~DV~~D~~FPN-  
 ---S---RRNL~~K~~RK~~S~~VADV~~E~~ESLIG~~A~~YLS~~E~~GG~~E~~LA-ALMFM~~N~~WVG~~I~~KV~~D~~FTTT-  
 ---E---RRKL~~S~~K~~R~~IADV~~E~~ALIG~~A~~FL~~S~~TGG~~E~~TA-ALFIM~~R~~WLG~~I~~IN~~S~~DV~~F~~VK-  
 ---KRI~~S~~PK~~T~~LADV~~E~~ALIG~~V~~SF~~V~~DGG~~L~~PK-AL~~E~~CIR~~L~~FI~~N~~VSQ~~R~~PF-  
 ---TREM~~S~~T~~K~~V~~L~~ADV~~E~~ALIG~~A~~AN~~I~~DGG~~E~~NK-ILN~~C~~L~~K~~I~~F~~I~~P~~DI~~K~~W~~S~~PL-  
 ---RHV~~L~~AD~~K~~SIADV~~E~~ALIG~~A~~AY~~L~~TGQ~~E~~KG--SF~~D~~MA~~I~~KA~~V~~TAM~~V~~KD~~K~~-  
 ---QHV~~L~~AD~~K~~TIADV~~E~~ALIG~~A~~AY~~L~~TAQ~~E~~TP~~N~~FD~~L~~AI~~R~~AV~~T~~VM~~V~~KD-  
 ---RQ~~R~~LAD~~K~~SIADV~~E~~ALIG~~A~~AY~~L~~SS~~K~~DD---NLN~~M~~AV~~K~~AV~~S~~Q~~M~~CK~~A~~K-  
 ---KHAL~~G~~E~~K~~TIADV~~E~~ALIG~~A~~S~~L~~LSGG~~P~~EH--RF~~D~~MA~~T~~KAV~~S~~AL~~V~~DSP-  
 ---KHAL~~G~~E~~K~~TIADV~~E~~ALIG~~A~~S~~L~~LSGG~~P~~EN--RF~~D~~MA~~T~~KAV~~T~~AL~~V~~DSP-  
 ---LPY~~N~~LL~~T~~QHSI~~S~~DKSIADV~~E~~ALIG~~V~~HLL~~T~~LGN~~P~~N-TL~~K~~V~~M~~N~~W~~AK~~G~~L~~V~~I~~K~~QD~~K~~-  
 ---SEG~~P~~RC~~F~~K~~V~~LGD~~L~~VE~~S~~CLG~~A~~L~~F~~LD~~C~~GF~~N~~L~~N~~H~~V~~WT~~M~~MS~~L~~F~~L~~DP~~V~~K~~N~~LS~~N~~-  
 ---CSK~~G~~H~~H~~W~~L~~Y~~K~~K~~T~~IADV~~E~~ALV~~G~~A~~F~~L~~V~~DSG~~F~~KG-AV~~F~~K~~L~~K~~W~~I~~G~~V~~N~~VE~~S~~L-  
 ---GE~~F~~N-M~~S~~T~~N~~V~~D~~VE~~K~~ALGD~~V~~LE~~A~~IA~~A~~V~~L~~D~~C~~R-DL~~Q~~RT~~W~~E~~V~~I~~F~~N~~L~~FE~~P~~LE~~Q~~E~~F~~T-  
 ---F~~N~~P---FK~~V~~LS~~D~~VE~~S~~LIG~~A~~V~~F~~DAG~~F~~NL~~D~~VP~~L~~GL~~F~~DR~~L~~L~~K~~PE~~L~~LD~~H~~I-  
 ---E~~I~~D~~S~~---PK~~F~~I~~S~~D~~T~~LE~~A~~M~~C~~AI~~F~~L~~D~~S~~G~~F~~S~~LQ~~S~~LQ~~F~~V~~L~~P~~L~~F~~N~~SL~~G~~D~~A~~T~~H~~-  
 ---L~~T~~Y~~H~~KL~~S~~DK~~T~~LADV~~E~~EST~~L~~G~~A~~S~~Y~~LS~~C~~LGD~~K~~KQ~~G~~D~~Q~~AL~~N~~E~~A~~L~~H~~TT~~Q~~R~~L~~-  
 ---AV~~L~~Q~~L~~S~~V~~K~~R~~IADV~~E~~AS~~I~~G~~A~~CL~~L~~DS~~G~~LD~~S~~-AL~~K~~F~~C~~SL~~S~~V~~G~~LD~~I~~S~~N~~-  
 ---E~~V~~N~~F~~CV~~G~~LV~~T~~I~~P~~N~~K~~V~~I~~AD~~T~~L~~E~~ALL~~G~~V~~I~~V~~K~~N~~Y~~GL~~Q~~H-A~~F~~K~~M~~L~~E~~Y~~F~~K~~I~~C~~R~~AD~~I~~D~~K~~-  
 ---Y~~N~~Q~~S~~L~~I~~K~~T~~LGD~~V~~ES~~L~~V~~G~~A~~I~~F~~D~~N~~N~~L~~D~~Y~~E~~I~~T~~K~~K~~I~~V~~EL~~L~~FA~~E~~IL~~Q~~-  
 ---S~~K~~T~~W~~AD~~M~~Y~~E~~E~~I~~V~~G~~S~~I~~F~~T~~GP~~N~~DI~~Y~~G~~C~~EE~~F~~LAK~~T~~ML~~S~~PE~~H~~S~~K~~T-  
 ---HQ~~A~~NS~~F~~K~~V~~LGD~~L~~W~~S~~V~~G~~AI~~I~~MS~~D~~SI~~T~~---F~~V~~SI~~Y~~G~~K~~L~~Y~~AP~~I~~Y~~I~~HF~~V~~-  
 ---LL~~R~~LE~~P~~T~~Y~~R~~H~~I~~K~~K~~T~~LAD~~T~~LES~~I~~GV~~F~~F~~Q~~Q~~K~~DL~~N~~LC~~Q~~YL~~L~~FS~~L~~Q~~V~~L~~N~~K~~P~~DL~~T~~-  
 ---QS~~F~~QL~~S~~YS~~N~~SL~~S~~DT~~L~~LES~~V~~VG~~F~~C~~F~~Y~~A~~SN~~Q~~FT~~L~~NT~~C~~Q~~I~~L~~K~~D~~L~~GL~~Q~~I~~D~~Q~~Y~~LL-  
 ---HP~~K~~I~~Q~~PD~~S~~K~~V~~Y~~L~~DT~~F~~FE~~A~~IL~~A~~AIL~~L~~CG~~E~~EA--AG~~A~~F~~V~~RE~~H~~W~~L~~P~~Q~~V~~A~~D-

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