CLUSTAL 2.1 multiple sequence alignment

[Homo ---------------------------------------------MEPAAGSSMEPSADW 15

[Pan ---------------------------------------------MEPAAGSSMEPSADW 15

[Bos ------------------------------------------------------------

[Mus -----------------------------------------------------MESAADR 7

[Rattus -----------------------------------------------------MESSADR 7

[Danio -----------------------------------------------------MMNVEDE 7

[Drosophila MANSSRSRAILSVNLDAVMANDPLRELFEACKTGEIAKVKKLITPQTVNARDTAGRKSTP 60

[Arabidopsis ----------MEIATDTAKQMRDEELFKAAEWGDSSLFMSLSEEQLSKSLNFRNEDGRSL 50

[Caenorhabditis ----------------------------------MNGDTEVLTHNLLKPAVVVDSFNLHA 26

[Homo LATAAARGRVEEVRALLEAG---ALPNAPNSYGRRPIQ-VMMMGSARVAELLLLHGAEPN 71

[Pan LATAAARGRVEEVRALLEAG---ALPNAPNSYGRRPIQ-VMMMGSARVAELLLLHGAEPN 71

[Bos ----------------------------------------MMMGSARVAELLLLHGADPN 20

[Mus LARAAAQGRVHDVRALLEAG---VSPNAPNSFGRTPIQ-VMMMGNVHVAALLLNYGADSN 63

[Rattus LARAAALGREHEVRALLEAG---ASPNAPNTFGRTPIQ-VMMMGNVKVAALLLSYGADSN 63

[Danio LTTAAATGNISHVQFLLSNG---VNANVVNKFRRTPIQ-VMMMGNAPLALVLLEQGADPN 63

[Drosophila LHFAAGYGRREVVEFLLNSG---ASIQACDEGGLHPLHNCCSFGHAEVVRLLLKAGASPN 117

[Arabidopsis LHVAASFGHSQIVKLLSSSDEAKTVINSKDDEGWAPLHSAASIGNAELVEVLLTRGADVN 110

[Caenorhabditis VISATQHGHVESVEAALKQG---LSPNTTDDDGCSLLHWAAINNRLEVARLLISYNADAN 83

. :. :\*: .\*. \*

[Homo CAD--------------------------------------------------------- 74

[Pan CAD--------------------------------------------------------- 74

[Bos CAD--------------------------------------------------------- 23

[Mus CED--------------------------------------------------------- 66

[Rattus CED--------------------------------------------------------- 66

[Danio VPD--------------------------------------------------------- 66

[Drosophila TTDNWNYTPLHEAASKGKVDVCLALLQHGANHTIRNSEQKTPLELADEATRPVLTGEYRK 177

[Arabidopsis AKN--------------------------------------------------------- 113

[Caenorhabditis LIG--------------------------------------------------------- 86

.

[Homo -----------------------------PATLTRPVHDAAREGFLDTLVVLHRAGARLD 105

[Pan -----------------------------PATLTRPVHDAAREGFLDTLVVLHRAGARLD 105

[Bos -----------------------------PATLTRPVHDAAREGFLDTLVALHRAGARLD 54

[Mus -----------------------------PTTFSRPVHDAAREGFLDTLVVLHGSGARLD 97

[Rattus -----------------------------PTTLSRPVHDAAREGFLDTLVVLHQAGARLD 97

[Danio -----------------------------PDTGSTPLHDAARTGFIDTVRLLIRFGADPN 97

[Drosophila DELLEAARSGAEDRLLALLTPLNVNCHASDGRRSTPLHLAAGYNRIGIVEILLANGADVH 237

[Arabidopsis ------------------------------NGGRTALHYAASKGRLEIAQLLLTHGAKIN 143

[Caenorhabditis -----------------------------GVLASSPIHWAARNGLVAMCAVLVKGGAVCN 117

.:\* \*\* . : \* \*\* .

[Homo VRDAWGRLPVDLAEELGHRDVARYLRAAAGGT--------------RGSNHARIDAAEGP 151

[Pan VRDAWGRLPVDLAEELGHRDVARYLRAAAGGT--------------RGSNHARIDAAEGP 151

[Bos VRDAWGRLPVDLAEERGHRDVARYLRAAAEDT--------------EGGSHASADSAEGP 100

[Mus VRDAWGRLPLDLAQERGHQDIVRYLRSAGCSLCSAGWSLCTAGNVAQTDGHSFSSSTPRA 157

[Rattus VRDAWGRLPLDLALERGHHDVVRYLRYLLSSAGNVSR---------VTDRHNFCSSTPRC 148

[Danio TKDHCDLRPVDVAQQTGNVDVVELLNRV-------------------------------- 125

[Drosophila AKDKGGLVPLHNACSYGHFDVTKLLIQAGANVNANDLWAFTPLHEAASKSRVEVCSLLLS 297

[Arabidopsis ITDKVGCTPLHRAASVGKLEVCEFLIEEGAEIDATDKMGQTALMHSVICDDKQVAFLLIR 203

[Caenorhabditis VRDIQGYTPIHLAIQGNHVPLVAYFLLKFEYAKDISDNSGMTPAMMCAKRSFTMFPLRLI 177

\* . \*:. \* . .: : :

[Homo SDIPD------------------------------------------------------- 156

[Pan LDIPD------------------------------------------------------- 156

[Bos ADSSDLKKD--------------------------------------------------- 109

[Mus LELRGQSQEQS------------------------------------------------- 168

[Rattus LGLRGQPPKQR------------------------------------------------- 159

[Danio ------------------------------------------------------------

[Drosophila RGADPTLLNCHSKSAIDAAPTRELRERIAFEYKGHCLLDACRKCDVSRAKKLVCAEIVNF 357

[Arabidopsis HGADVDVEDKEGYTVLGRATNEFRPALIDAAKAMLEG----------------------- 240

[Caenorhabditis VRAGADLSLKEHFSGNTALHLAAQDRNSSAVM---------------------------- 209

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila VHPYTGDTPLHLAVVSPDGKRKQLMELLTRKGSLLNEKNKAFLTPLHLAAELLHYDAMEV 417

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila LLKQGAKVNALDSLGQTPLHRCARDEQAVRLLLSYAADTNIVSLEGLTAAQLASDSVLKL 477

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila LKNPPDSETHLLEAAKAGDLDTVRRIVLNNPISVNCRDLDGRHSTPLHFAAGFNRVPVVQ 537

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila FLLEHGAEVYAADKGGLVPLHNACSYGHYEVTELLVKHGANVNVSDLWKFTPLHEAAAKG 597

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila KYDICKLLLKHGADPMKKNRDGATPADLVKESDHDVAELLRGPSALLDAAKKGNLARVQR 657

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila LVTPESINCRDAQGRNSTPLHLAAGYNNFECAEYLLENGADVNAQDKGGLIPLHNASSYG 717

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila HLDIAALLIKHKTVVNATDKWGFTPLHEAAQKGRTQLCSLLLAHGADAYMKNQEGQTPIE 777

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila LATADDVKCLLQDAMATSLSQQALSASTQSLTSSSPAPDATAAAAPGTSSSSSSAILSPT 837

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila TETVLLPTGASMILSVPVPLPLSSSTRISPAQGAEANGAEGSSSDDLLPDADTITNVSGF 897

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila LSSQQLHHLIELFEREQITLDILAEMGHDDLKQVGVSAYGFRHKILKGIAQLRSTTGIGN 957

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila NVNLCTLLVDLLPDDKEFVAVEEEMQATIREHRDNGQAGGYFTRYNIIRVQKVQNRKLWE 1017

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila RYAHRRQEIAEENFLQSNERMLFHGSPFINAIVQRGFDERHAYIGGMFGAGIYFAEHSSK 1077

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo ------------------------------------------------------------

[Pan ------------------------------------------------------------

[Bos ------------------------------------------------------------

[Mus ------------------------------------------------------------

[Rattus ------------------------------------------------------------

[Danio ------------------------------------------------------------

[Drosophila SNQYVYGIGGGIGCPSHKDKSCYVCPRQLLLCRVALGKSFLQYSAMKMAHAPPGHHSVVG 1137

[Arabidopsis ------------------------------------------------------------

[Caenorhabditis ------------------------------------------------------------

[Homo --------------------------------------------

[Pan --------------------------------------------

[Bos --------------------------------------------

[Mus --------------------------------------------

[Rattus --------------------------------------------

[Danio --------------------------------------------

[Drosophila RPSAGGLHFAEYVVYRGEQSYPEYLITYQIVKPDDSSSGTEDTR 1181

[Arabidopsis --------------------------------------------

[Caenorhabditis --------------------------------------------