

# CLUSTAL X (1.83) MULTIPLE SEQUENCE ALIGNMENT

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Ricinus communis_ssu72	-----MKLRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	126
Populus_trichocarpa_hyp	-----MKFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	126
Vitis_vinifera_hyp	-----MKFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	126
Arabidopsis_thaliana_ssu72	-----MKFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	126
Picea_sitchensis_protd	-----MKLRHAMVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	126
1Phycosmitrella_patens_hyp	-----MKLRHAMVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	126
Vitis_vinifera_hyp_cut	-----YAMFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	121
Gea_mays_hyp	-----MKFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	130
Oryza_sativa_protd	-----MGEMARKRFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	132
Chlamydomonas_reinhardtii_hyp	-----MQRHRFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	132
Micromonas_pustilla_hyp	-----MQRHRFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	114
Aedes_aegypti_protd	-----MQRHRFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Ostreococcus_lucimarinus_hyp	-----MQRHRFRVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	132
Ostreococcus_tauri_protd_cut	-----YACVCAAFNRMEARVLLLENGD-VKYGAAHVKVLPGPSRDPVDFDPSGVEEILLRDRSDEE-VKNVEERGMEDLRNNAIKKRCPEKWT-----HREGE-----ETFVIVCFEERVDFVMDLHNRD	126
Dicystotellium_discoideum_hyp_c	-----QCNKRIAMVAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Caenorhabditis_elegans_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	129
Caenorhabditis_briggsae_hyp	-----MDTSLKRFVAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	129
1Brugia_malayi_ssu72	-----MKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	126
Clona_intestinalis_hyp	-----MKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	125
Nematostella_vactaria_hyp	-----MKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	126
Hydra_magnipapillata_hyp_cut	-----MKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	123
Trichoplax_adhaerens_hyp	-----MKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	125
Aedes_aegypti_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	130
Anopheles_gambiae_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	130
1Bombyx_mori_ssu72	-----MDDLYAVVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	125
Tribolium_castaneum_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Pediculus_humanus_corporis_ssu	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Acyrtosiphon_pisum_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Apis_mellifera_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_sechellia_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_simulans_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_melanogaster_cryst	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_yakuba_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_erebia_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_annasae_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_willistonii_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_virilis_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_grinshawi_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Drosophila_mojavensis_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Caligus_rogeresseyi_ssu72	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	136
Ixodes_scapularis_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	126
1Pan_troglodytes_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
1Homo_sapiens_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Macaca_mulatta_similar_ssu72	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
2Bosus_caballus_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
4Bos_taurus_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
4Canis_familiaris_hyp_cut	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Xenopus_tropicalis_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
1Xenopus_laevis_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
1Salmo_salar_ssu72	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Esoc_lucius_ssu72	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
1Danio_erio_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Tetraodon_nigriviridis_protd_in	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Rattus_norvegicus_ssu72	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
1Mus_musculus_ssu72	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
1Canis_familiaris_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
1Homo_sapiens_ssu72	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
1Monodelphis_domestica_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Gallus_gallus_ssu72	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
13Pan_troglodytes_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
1Bos_taurus_hyp_cut	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	127
Branchiostoma_floridae_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	129
Strongylocentrotus_purpuratus	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	124
Schizosaccharomyces_japonicus	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Schizosaccharomyces_pombe_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Yarrowia_lipolytica_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	125
Saccharomyces_cerevisiae_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	130
Candida_glabrata_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Ashbya_gosypii_protd_cut	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	128
Kluyveromyces_lactis_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	131
Vanderwaltozyma_polyspora_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	130
Pichia_tiptoi_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	130
1Pichia_guilliermondii_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	130
Debaryomyces_hansenii_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	130
Candida_dubliniensis_ssu72	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	133
Candida_albicans_protd	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	133
Lodderomyces_elongisporus_ssu7	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	130
Pichia_pastoris_hyp	-----MFRSFKLRFAVCSNNQRMEASILLKMGD-VSYGCGAHVLPGPSRELPVDFG-IPKIMFDLRRKDP-----DLKRRGILMLKRRSSVGLAFARWD-----NAAD-----GPFVVFPEEKVDFVMDLHNRD	134
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# CLUSTAL X (1.83) MULTIPLE SEQUENCE ALIGNMENT

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Ricinus communis_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Populus_trichocarpa_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Vitis_vinifera_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Arabidopsis_thaliana_ssu72	-----QLSLT-TLLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Picea_sitchensis_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Physcomitrella_patens_hyp	-----TNLMK-LALLILMDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Vitis_vinifera_hyp_cut	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Sea_mays_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Oryza_sativa_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Chlamydomonas_reinhardtii_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Micromonas_pusilla_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Micromonas_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Ostreococcus_lucimarinus_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Ostreococcus_tauri_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Dictyostelium_discoideum_hyp_c	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Caenorhabditis_elegans_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Caenorhabditis_briggsae_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Brugia_malayi_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Ciona_intestinalis_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Nematostella_vectensis_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Hydra_magnipapillata_hyp_cut	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Trichoplax_adhaerens_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Aedes_aegypti_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Culex_quinqnefasciatus_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Anopheles_gambiae_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Bombyx_mori_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Tribolium_castaneum_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Pediculus_humanus_corporis_ssu	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Acyrtosiphon_pisum_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Apis_melifera_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_sechellia_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_simulans_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_melanogaster_cry	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_yakuba_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_erebia_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_annasae_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_willistonii_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_virilis_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_granabaw_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Drosophila_mojavensis_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Caligus_rogerresseyi_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Ixodes_scapularis_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Pan_troglodytes_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Homo_sapiens_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Macaca_mulatta_similar_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
2Bos_caballus_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
4Bos_taurus_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
4Canis_familiaris_hyp_cut	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Xenopus_tropicalis_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Xenopus_laevis_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Salmo_salar_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Esox_lucius_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Danio_rerio_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Tetraodon_nigroviridis_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Rattus_norvegicus_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Mus_musculus_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Canis_familiaris_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Homo_sapiens_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Monodelphis_domestica_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Gallus_gallus_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
13Pan_troglodytes_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Bos_taurus_hyp_cut	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Branchiostoma_floridae_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Strongylocentrotus_purpuratus	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Schizosaccharomyces_japonicus	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Schizosaccharomyces_pombe_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Yarrowia_lipolytica_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Saccharomyces_cerevisiae_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Candida_glabrata_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Ashbya_gosypii_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Kluyveromyces_lactis_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Vanderwaltozyma_polyspora_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Pichia_atipica_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
1Pichia_guilliermondii_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Debaryomyces_hansenii_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Candida_dubliniensis_ssu72	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Candida_albicans_hyp	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Lodderomyces_elongisporus_ssu7	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
Pichia_pastoris_pro	-----HVLMLR-SVLVILLDVKNHEEAAGARLALDLCLEAAS-S-----	-----MEDSIDLITAFET-HRRKLLVVSFV	193
ruler	.....160.....170.....180.....190.....200.....210.....220.....230.....240.....250		

