

CLUSTAL X (1.83) MULTIPLE SEQUENCE ALIGNMENT

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Caenorhabditis elegans hyp -----MESSKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ABTRE----FDVILCEERVDQVDFNRRS 128
Caenorhabditis briggsae hyp -----MDVTSKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ABTRE----FDVILCEERVDQVDFNRRS 128
Ibrugia malayi_sau/2 -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----HFSGR----FDVILCEERVDQVDFNRRS 125
Ciona intestinalis hyp -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DLYVG----FDVILCEERVDQVDFNRRS 124
Nematostella vectensis hyp -----MVKILKIAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----BAVEH----FDLILABERVDQVIEHLESL 125
Hydra magnipapillata_hyp_cut -----LKIYAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DKSSG----FDLITABERVDQVIEHLESL 122
Trichoplax adhaerens hyp -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DCVTE----ECVITCEERVDQVIEHLESL 124
Apis mellifera hyp -----MFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----LSKPK----FDLITCEERVDQVIEHLESL 127
Nasonia vitripennis hyp -----KKGFN-VKSPGQDKVILGPAADPKVIFDF-GSVYEDVLDLSEK-----KQVYTGILLMVDNRNRKISRFPRFO-----LSKPK----FDLITCEERVDQVIEHLESL 99
Aedes aegypti prod -----MNVQVSPVSAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----LCTSR----FDVILCEERVDQVIEHLESL 129
Culex quinquefasciatus_sau/2 -----MNVQVSPVSAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----LCTSR----FDVILCEERVDQVIEHLESL 129
Anopheles gambiae_prod -----MNVQVSPVSAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----LCTSR----FDVILCEERVDQVIEHLESL 129
Anopheles moroi_sau/2 -----MNVQVSPVSAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----VCSNR----FDVILCEERVDQVIEHLESL 124
Tribolium castaneum_hyp -----MNVQVSPVSAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----LCTSR----FDVILCEERVDQVIEHLESL 129
Pedicularis humanus_corporis_sau -----MPSLNKIKIAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----SCMEK----FDLILCEERVDQVIEHLESL 127
Acyrthosiphon pisum_hyp -----KAIQDFIAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ECNSQ----FTVITCEERVDQVIEHLESL 126
Drosophila sechellia_prod -----MDLKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DTRKR----FDVILCEERVDQVIEHLESL 127
Drosophila simulans_prod -----MDLKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DTRKR----FDVILCEERVDQVIEHLESL 127
Drosophila melanogaster_cryst -----XIDPKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DTRKR----FDVILCEERVDQVIEHLESL 127
Drosophila yakuba_prod -----MDPKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ETKSK----FDVILCEERVDQVIEHLESL 127
Drosophila areolaris_prod -----MDPKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ETKSK----FDVILCEERVDQVIEHLESL 127
Drosophila ananassae_prod -----MDPKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ETKSK----FDVILCEERVDQVIEHLESL 127
Drosophila persimilis_prod_cut -----INFLAKKGFN-VKSPGQDKVILGPAADPKVIFDF-GSVYEDVLDLSEK-----KQVYTGILLMVDNRNRKISRFPRFO-----ETKSK----FDVILCEERVDQVIEHLESL 104
Drosophila willistonii_prod -----MDPKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ETKSK----FDVILCEERVDQVIEHLESL 127
Drosophila virilis_prod -----MDPKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ETKSK----FDVILCEERVDQVIEHLESL 127
Drosophila grimshawi_prod -----MDPKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ETKSK----FDVILCEERVDQVIEHLESL 127
Drosophila jejunensis_prod -----MDPKLAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ETKSK----FDVILCEERVDQVIEHLESL 127
Caligua rogersi_cryst_sau/2 -----MNVQVSPVSAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCTYK----FDVILCEERVDQVIEHLESL 125
Ixodes scapularis_prod -----MPSLRIAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCTYK----FDVILCEERVDQVIEHLESL 125
Ipan troglodytes_hyp -----MISLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DCTDF----FDVILCEERVDQVIEHLESL 126
Homo sapiens_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DCTDF----FDVILCEERVDQVIEHLESL 126
Macaca mulatta_similar_sau/2 -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DCTDF----FDVILCEERVDQVIEHLESL 126
2Equus caballus_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ECLSA----FDVILCEERVDQVIEHLESL 126
4Bos taurus_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ECLSA----FDVILCEERVDQVIEHLESL 126
Equus familiaris_hyp_cut -----VPPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ECLSA----FDVILCEERVDQVIEHLESL 126
1Bos taurus_hyp_cut -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----ECLSA----FDVILCEERVDQVIEHLESL 126
Xenopus tropicalis_hyp -----MPTAPLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDR----FDVILCEERVDQVIEHLESL 126
1Xenopus laevis_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDR----FDVILCEERVDQVIEHLESL 126
1Saalmo salar_sau/2 -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDR----FDVILCEERVDQVIEHLESL 126
1Eox lucius_sau/2 -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDR----FDVILCEERVDQVIEHLESL 126
1Danio rerio_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDR----FDVILCEERVDQVIEHLESL 126
Tetraodon nigroviridis_prod_in -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDR----FDVILCEERVDQVIEHLESL 126
1Gallus gallus_sau/2 -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDR----FDVILCEERVDQVIEHLESL 126
Taeniopygia guttata_hyp_cut -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDR----FDVILCEERVDQVIEHLESL 102
1Rattus norvegicus_sau/2 -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDL----FDLILCEERVDQVIEHLESL 126
1Mus musculus_sau/2 -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDL----FDLILCEERVDQVIEHLESL 126
1Canis familiaris_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDL----FDLILCEERVDQVIEHLESL 126
1Homo sapiens_sau/2 -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDL----FDLILCEERVDQVIEHLESL 126
1Monodelphis domestica_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDL----FDLILCEERVDQVIEHLESL 126
1Pan troglodytes_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDL----FDLILCEERVDQVIEHLESL 126
1Brachiotomota florida_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDL----FDLILCEERVDQVIEHLESL 128
1Strongylocentrotus purpuratus -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NCKDL----FDLILCEERVDQVIEHLESL 123
1Ricinus communis_sau/2 -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAAD----SFDVVFPEKVFDMVLEHNR 125
1Populus trichocarpa_hyp -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAAD----SFDVVFPEKVFDMVLEHNR 125
1Vitis vinifera_hyp -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAAD----SFDVVFPEKVFDMVLEHNR 125
1Arabidopsis thaliana_sau/2 -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAAD----SFDVVFPEKVFDMVLEHNR 125
1Picea sitchensis_prod -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAAD----SFDVVFPEKVFDMVLEHNR 125
1Physoconitrella patens_hyp -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAAD----SFDVVFPEKVFDMVLEHNR 125
1Vitis vinifera_hyp_cut -----YAKRFAMVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NATY----EFDVVFPEKVFDMVLEHNR 129
1Zea mays_hyp -----MAEKRFAMVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAGD----SFDVVFPEKVFDMVLEHNR 121
1Oryza sativa_prod -----MAEKRFAMVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAGD----SFDVVFPEKVFDMVLEHNR 131
1Chlamydomonas reinhardtii_hyp -----MKLRFAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAGD----SFDVVFPEKVFDMVLEHNR 113
1Micromonas pusilla_hyp -----MAEKRFAMVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAGD----SFDVVFPEKVFDMVLEHNR 126
1Ostreococcus tauri_prod_cut -----MAEKRFAMVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----NAGD----SFDVVFPEKVFDMVLEHNR 124
1Dityostelium discoideum_hyp_c -----QCNKIRAMVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----EQGS----KFDVVFPEKVFDMVLEHNR 126
1Schizosaccharomyces japonicus -----MAEKRFAMVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----HGR-----EFDVVFPEKVFDMVLEHNR 132
1Schizosaccharomyces pombe_hyp -----MAEKRFAMVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----HGR-----EFDVVFPEKVFDMVLEHNR 127
1Yarrowia lipolytica_prod -----MTELKIRAMVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----VEHKNV----FDVVFPEKVFDMVLEHNR 104
1Coprinopsis cinerea_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----QETRTV----ADVVFPEKVFDMVLEHNR 127
1Saccharomyces cerevisiae_prod -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----QETRTV----ADVVFPEKVFDMVLEHNR 129
1Candida glabrata_prod -----MDQKALFCTVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----QETRTV----ADVVFPEKVFDMVLEHNR 127
1Ashbya gossypii_prod_cut -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 127
1Kluyveromyces fragilis_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 127
1Vanderwaltozyma polyspora_hyp -----MRDQTFCTVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 126
1Pichia stipitis_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 129
1Pichia guilliermondii_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 132
1Debaromyces hansenii_hyp -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 132
1Candida dubliniensis_sau/2 -----MKLIDDSLICTVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 132
1Candida albicans_prod -----MKLIDDSLICTVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 132
1Lodderomyces elongisporus_sau/7 -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 133
1Candida pastoris_prod -----MPSLIRAVAVCSNMRMEAEALGILKRGFN-IEVYGGNOVQMPGPTVDKPCVDFGPTVIEDLADITNDL-----LHLVYTGILLMVDNRNRKISRFPRFO-----DQSKV----FDVVFPEKVFDMVLEHNR 132
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CLUSTAL X (1.83) MULTIPLE SEQUENCE ALIGNMENT

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Caenorhabditis elegans hyp V-----KSKSN-PVHVIVNDIDQHEEAAGAFFVADLCKLERED-----FEEDIDQIITLSENNKRNLLIICFY 197
Caenorhabditis briggsae hyp D-----TSTNS-PVHVIVNDIDQHEEAAGAFFVADLCKLERED-----CDEEIDQIITLSENNKRNLLIICFY 197
Ibrugia malayi_sau72 D-----TWREDD-SVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----LNDIDELHDFEENNSKRNLLIICFY 194
Ciona intestinalis hyp E-----STKTE-PVHVIVNDIDQHEEAAGAFFVADLCKLERED-----LNDIDELHDFEENNSKRNLLIICFY 192
Nematostella vectensis hyp D-----AQSTK-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----VEDINDVAKFER-EYKRNLLIICFY 193
Hydra magnipapillata hyp cut E-----PQSYR-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----LDDIHLATLEKFER-EYKRNLLIICFY 190
Trichoplax adhaerens hyp E-----VWNET-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----LNDIDELHDFEENNSKRNLLIICFY 192
Apis mellifera hyp T-----QEDSQ-PVHVIVNDIDQHEEAAGVGFLLCELVIVLANED-----LNDIDELHDFEENNSKRNLLIICFY 195
Nasonia vitripennis hyp T-----QEDNQ-PVHVIVNDIDQHEEAAGVGFLLCELVIVLANED-----LNDIDELHDFEENNSKRNLLIICFY 167
Aedes aegypti prod T-----FTYLL-PVHVIVNDIDQHEEAAGVGFLLCELVIVLANED-----LNDIDELHDFEENNSKRNLLIICFY 197
Culex quinquefasciatus_sau72 T-----FTYLL-PVHVIVNDIDQHEEAAGVGFLLCELVIVLANED-----LNDIDELHDFEENNSKRNLLIICFY 197
Anopheles gambiae prod T-----SYNL-PVHVIVNDIDQHEEAAGVGFLLCELVIVLANED-----LNDIDELHDFEENNSKRNLLIICFY 197
Ibombyx mori_sau72 R-----SLYHQ-PVHVIVNDIDQHEEAAGVGFLLCELVIVLANED-----LNDIDELHDFEENNSKRNLLIICFY 192
Tribolium castaneum hyp T-----VVDNS-PVHVIVNDIDQHEEAAGVGFLLCELVIVLANED-----LNDIDELHDFEENNSKRNLLIICFY 195
Pediculus humanus corporis_sau E-----STENT-PVHVIVNDIDQHEEAAGVGFLLCELVIVLANED-----LNDIDELHDFEENNSKRNLLIICFY 195
Acyrthosiphon pisum hyp L-----SFENR-PVHVIVNDIDQHEEAAGVGFLLCELVIVLANED-----LNDIDELHDFEENNSKRNLLIICFY 194
Drosophila sechellia prod E-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Drosophila simulans prod E-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Drosophila melanogaster_cryst E-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Drosophila yakuba prod E-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Drosophila areolaris prod E-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Drosophila ananassae prod E-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Drosophila persimilis prod cut E-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 172
Drosophila willistonii prod D-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Drosophila virilis prod D-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Drosophila grimshawi prod E-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Drosophila mojavensis prod E-----SVDNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LNDIDELHDFEENNSKRNLLIICFY 195
Caligua rogersi_sau72 D-----TADQC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----LNDIDELHDFEENNSKRNLLIICFY 193
Ixodes scapularis prod L-----TCDNS-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----LNDIDELHDFEENNSKRNLLIICFY 193
Ipan troglodytes hyp E-----QTFQC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Homo sapiens hyp E-----QTFQC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Macaca mulatta_similar_sau72 E-----QTFQC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
2Equus caballus hyp E-----QTFQC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Bos taurus hyp E-----QTFQC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
4Canis familiaris hyp cut E-----QATFC-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 194
1Bos taurus hyp cut E-----QATFC-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 194
Xenopus tropicalis hyp E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Xenopus laevis hyp E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
1Salmo salar_sau72 E-----QETFT-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Eox lucius_sau72 E-----QETFT-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
1Danio rerio hyp E-----QESQC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Tetraodon nigroviridis prod in E-----QETLC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Gallus gallus_sau72 E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Taeniopygia guttata hyp cut E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 170
Rattus norvegicus_sau72 E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
1Mus musculus_sau72 E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
1Canis familiaris hyp E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
1Homo sapiens_sau72 E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
1Monodelphis domestica hyp E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
13Pan troglodytes hyp E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Branchiostoma floridae hyp E-----QETCC-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----MENDRELLQFER-KSRPFLMTCFY 194
Strongylocentrotus purpuratus E-----EETQI-PVHVIVNDIDQHEEAAGALVCDLCAKLRACED-----LNDIDELHDFEENNSKRNLLIICFY 191
Ricinus communis_sau72 D-----HVLNR-SVLVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 193
Populus trichocarpa hyp E-----HVLNK-SVLVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 193
Vitis vinifera hyp E-----HVLNK-SVLVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 193
Arabidopsis thaliana_sau72 E-----QSLTK-TILVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 193
Picea sitchensis prod E-----PILMR-SVLVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 193
1Phycomitrella patens hyp E-----TLMNK-KALIVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 193
Vitis vinifera hyp cut E-----PILMK-CVLVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 193
Zea mays hyp E-----QRLMK-NALIVIVNDVVDADALMGAFVLDMLNLMKIND-----MEDSLELLQFER-KSRPFLMTCFY 200
Schizosaccharomyces japonicus E-----QVTLQ-PLVIVIVNDVVDADALMGAFVLDMLNLMKIND-----WECRCDEIMDTPA-ESGRPPIITCVH 181
Micromonas pusilla hyp E-----QSGSE-PLVIVIVNDVVDADALMGAFVLDMLNLMKIND-----WECRCDEIMDTPA-ESGRPPIITCVH 183
Micromonas hyp E-----QSGSE-PLVIVIVNDVVDADALMGAFVLDMLNLMKIND-----WECRCDEIMDTPA-ESGRPPIITCVH 183
Ostreococcus lucimarinus hyp E-----GARD-AALVIVNDVVDADALMGAFVLDMLNLMKIND-----WEGSISIVDFER-EBGLRALVCFY 194
Ostreococcus tauri prod cut E-----SLLQ-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----WEEKLIDLEDFYK-TSRPFLMTCFY 196
Dityostelium discoideum hyp c E-----EKNY-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LEKFTDITFHWKPKFLPLTHIF 197
Schizosaccharomyces pombe hyp E-----ETLNR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LEKFTDITFHWKPKFLPLTHIF 197
Yarrowia lipolytica prod E-----EKLQR-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LDAQIMGIMDSWQHEKFLMHAQYF 193
Coprinopsis cinerea hyp E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----LDENKILLEGCKRHPN-LLAAVAAY 175
Saccharomyces cerevisiae prod E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 204
Candida glabrata prod E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 204
Ashbya gossypii prod cut E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 204
Kluyveromyces fragilis prod E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 204
Vanderwaltozyma polyspora hyp E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 202
Pichia stipitis hyp E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 217
Pichia guilliermondii hyp E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 223
Debaromyces hansenii hyp E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 223
Candida dubliniensis_sau72 E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 226
Candida albicans prod E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 226
Lodderomyces elongisporus hyp E-----SLEK-PVHVIVNDVVDADALMGAFVLDMLNLMKIND-----CQCRKDFEFCVLDITFHWKPKFLPLTHIF 221
Pichia pastoris prod ruler E-----SSQINR-LLHVIVNDVVDADALMGAFVLDMLNLMKIND-----KQDSTS10KMYDLEFDSIPDLAAKDHNLPLMLSVGN 231
.....160.....170.....180.....190.....200.....210.....220.....230.....240.....250.
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