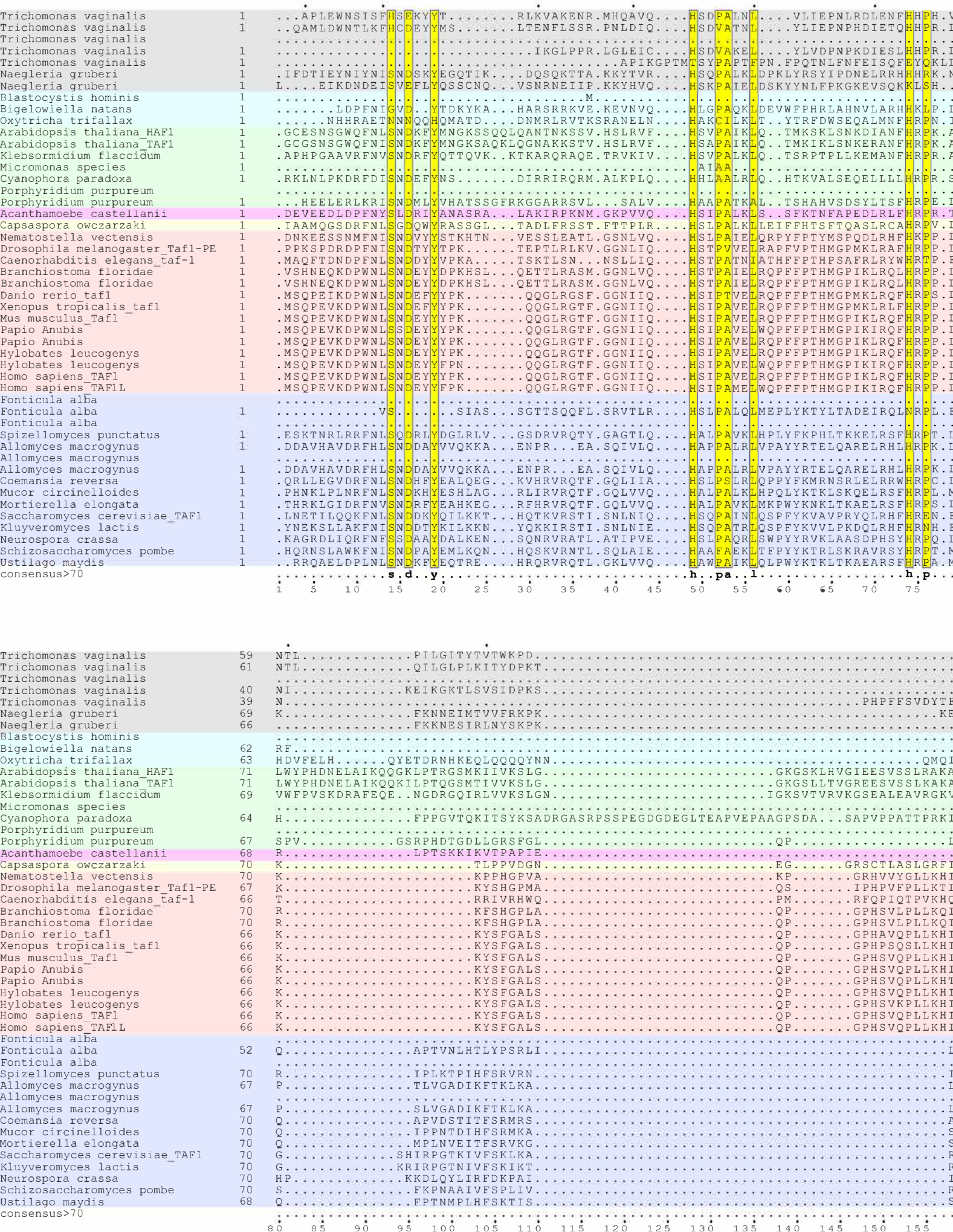


Supplemental Fig. S17



| | | |
|---------------------------------|-----|--------------------------------------------------------------------|
| Trichomonas vaginalis | 76 |EIPDDDDPAQIS..... |
| Trichomonas vaginalis | 79 |HPSYSNEFDTVQIS..... |
| Trichomonas vaginalis | 58 |FV.....DNEEEH..... |
| Trichomonas vaginalis | 51 | HRRV.....K.....LCPEKQSSKNFG..... |
| Naegleria gruberi | 87 | KKKS.KKR..... |
| Naegleria gruberi | 81 |RKI..... |
| Blastocystis hominis | |RDQKLTLDGVTGV.....VKLGKE |
| Bigelowiella natans | 64 |EQQSH.....IP.....PTPCPFIQMCKMVLSDQV.....DKRPPK |
| Oxytricha trifallax | 93 | SRKL.DFKET.....EAVKMFYKGELEDEKSLAAQNVQPNLSVHLLIRTKVHLWLPWAQKLPGE |
| Arabidopsis thaliana HAF1 | 123 | SRKL.DFKET.....EAVKMFYKGELEDEKSLAEQNVQPNLSVHLLIRTKVHLWLPWAQKLPGE |
| Arabidopsis thaliana TAF1 | 123 | SRKL.DFKET.....EAVKMFYKGELEDEKSLAEQNVQPNLSVHLLIRTKVHLWLPWAQKLPGE |
| Klebsormidium flaccidum | 121 | MSKW.KDVKK.....ETLRFHLHAGKEITDGAPLTDQSLRHDSIVHLLIRTKVHLWLPWAQKLPGE |
| Micromonas species | 5 |GDPA..... |
| Cyanophora paradoxa | 125 | KKVT.....LTPGSSAVGGSSGSGAADASADGGSGGPPVASSSSGAAR.....E |
| Porphyridium purpureum | 1 |D..... |
| Porphyridium purpureum | 90 | RRKRVKTSRTA.....TAATDRNGISIGIGNDRNDAFATPATHTHLAGG.V.....AAGN |
| Acanthamoeba castellanii | 84 |GSRTNPRFKKQS..... |
| Capsaspora owczarzaki | 94 | KKKE.HER.....LQERQKS.GGDV..... |
| Nematostella vectensis | 93 | KKKA.RER.....EKERLASGGGEM..... |
| Drosophila melanogaster Taf1-PE | 90 | AKKA.KQR.....EVERIASGGGDV..... |
| Caenorhabditis elegans Taf-1 | 89 | QRVA.AMR.....EAMRQAQGGGEV..... |
| Branchiostoma floridae | 93 | KKKA.KLR.....EQERQASGGGEV..... |
| Branchiostoma floridae | 93 | KKKA.KLR.....EQERQASGGGEV..... |
| Danio rerio taf1 | 89 | KKKA.KMR.....EQERQASGGGDM..... |
| Xenopus tropicalis taf1 | 89 | KKKA.KMR.....EQERQASGGGEM..... |
| Mus musculus Taf1 | 89 | KKKA.KMR.....EQERQASGGGEM..... |
| Papio Anubis | 89 | KKKA.KMR.....EQERQASGGGEL..... |
| Papio Anubis | 89 | KVSG.QMR.....EQERQASGGGEM..... |
| Hylobates leucogenys | 89 | KKKA.KMR.....EQERQASGGGEM..... |
| Hylobates leucogenys | 89 | KKKA.KMR.....EQERQASGGGDL..... |
| Homo sapiens TAF1 | 89 | KKKA.KMR.....EQERQASGGGEM..... |
| Homo sapiens TAF1L | 89 | KKKA.KMR.....EQERQASGGGEL..... |
| Fonticula alba | |KRYEANSAGDYA..... |
| Fonticula alba | 69 | EKKR..... |
| Fonticula alba | |L.....KGKEAG..... |
| Spizellomyces punctatus | 86 | KKKK.....I.....KGKENV..... |
| Allomyces macrogynus | 83 | KKKK.....I.....KGKENV..... |
| Allomyces macrogynus | |Q.....KFSM..... |
| Allomyces macrogynus | 83 | KKKK.....I.....KGKENV..... |
| Coemansia reversa | 86 | KKRK.....K.....DKKKGHV..... |
| Mucor circinelloides | 86 | KKKN.....K.....KRKELG..... |
| Mortierella elongata | 86 | KKKN.....K.....KRKELG..... |
| Saccharomyces cerevisiae_TAF1 | 88 | KKRK.....D.....KGKDVH..... |
| Kluveromyces lactis | 88 | KKRK.....D.....KGKDVH..... |
| Neurospora crassa | 88 | KKRK.....L.....KGKRVV..... |
| Schizosaccharomyces pombe | 86 | KRSK.....D.....KHKSER..... |
| Ustilago maydis | 84 | KKKK.....EGAGARKADPN..... |

160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235

| | | |
|---------------------------------|-----|--------------------------------------------------------------------------------|
| Trichomonas vaginalis | 88 |PFLKDLDDLS.GRR.....GGIIVVEH.TVBY.PQFITNVGMASLTVT.FWHKA..HA.ND.N |
| Trichomonas vaginalis | 93 |PYLRDFE.SLS.GRN.....GRKLI.LLLEH.TSEN.PAFILNVGMASRLITY.YHQA..TA.EDI. |
| Trichomonas vaginalis | 66 |IFLKDFE.SLS.ARN.....GRKIM.LLLEI.VSENP.PFILNVGMASQLVT.YYHMR..SS.DK. |
| Trichomonas vaginalis | 68 |KYILKNE.DLK.LDS.....GDFVLLVEY.I.DDDP.VIQPIVGMCSLTLT.VLTSDS..NI.TSHK |
| Naegleria gruberi | 94 |KDIEKKQDLS.AND.....HRVILMEY.VEER.PSLLNNVGMGTMINNY.YKKP..NS.AF.. |
| Naegleria gruberi | 84 |KSIQSRM.DLS.AVD.....NQLVLMF.LERS.PSLLNKFGMATNIVN.YCKP..ET... |
| Blastocystis hominis | 2 |QAIRSVS.ELS.TNS.....GHLVLI.EY.SEP.PMFLNOGMGAYIIN.WLDSE.CPE.AD.. |
| Bigelowiella natans | 82 | SKKLEDDKVSFSWKHS.ASE.....GRVVLFEY.IEQNP.PALIANVGMASLILK.YHRKKA.NE.ED.. |
| Oxytricha trifallax | 125 | VGIINAHEFFRDRIKLS.LKD.....GKFCVFEY.IDQQP.LFINNFGMASKLKY.LYSD..KFLPDS. |
| Arabidopsis thaliana HAF1 | 180 | NKSLRPPGAFKKKS.DLS.TKD.....GHVFLMEY.CEER.PLMSNAGMGANLCT.YYQKS..SP.ED.. |
| Arabidopsis thaliana TAF1 | 180 | NKSLRPPGAFKKKS.DLS.NQD.....GHVFLMEY.CEER.PLMSNAGMGANLCT.YYQKS..SP.ED.. |
| Klebsormidium flaccidum | 178 | EQPSRPPGAFKKKV.DLT.AKD.....GHVFLMEY.AEER.PLLSLP.GM.GARLAT.YYRKR..SS.AD.. |
| Micromonas species | 9 |EAVAMAMTKPS.DLS.ATN.....GKLI.LVQY.AEKD.PPLIAPGM.GAKRVT.YYRRR..TQ.GD.. |
| Cyanophora paradoxa | 168 | GAGAHGSKKKHGKG.GIT.AR.....TGLVAF.EY.MDEN.PMLMNP.GMASRLLH.LYRKR..SG.TD.P. |
| Porphyridium purpureum | |SHRIVL.TEY.ALERT.PPLIMLP.GMASRYVT.YYRKR..SA..... |
| Porphyridium purpureum | 137 | GLPGTGAGAFKRKS.DLSCAAKD.....GRVVLAEY.LEER.PVLSNVGMGATKILN.YYRKR..DV.NDI. |
| Acanthamoeba castellanii | 96 |GTIRRRK.ELS.GKD.....GDIVLLE.Y.CEE.PPLVSNVGMVSRLYN.YYRKT..EP.QD.. |
| Capsaspora owczarzaki | 112 |FFMKTQR.DLS.GRD.....GDIVLLE.Y.CEE.PPLVSNVGMVSRLYN.YYRKT..EP.QD.. |
| Nematostella vectensis | 112 |FFMRTPS.DLT.GMD.....GDIVLLE.Y.CEE.PPLVSNVGMVSRLYN.YYRKT..EP.QD.. |
| Drosophila melanogaster Taf1-PE | 109 |FFMRNPE.DLS.GRD.....GDIVLLE.Y.CEE.PPLVSNVGMVSRLYN.YYRKT..EP.QD.. |
| Caenorhabditis elegans Taf-1 | 108 |FMRDVQ.DLS.GKD.....ETLVMIEY.SEEH.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Branchiostoma floridae | 112 |FFMRTPO.DLT.GMD.....GDIVLLE.Y.CEE.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Branchiostoma floridae | 112 |FFMRTPO.DLT.GMD.....GDIVLLE.Y.CEE.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Danio rerio taf1 | 108 |FFMRTAQ.DLT.GKD.....GDLILAEY.SEEY.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Xenopus tropicalis taf1 | 108 |FFMRTSQ.DLT.GKD.....GDLILAEY.SEEY.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Mus musculus Taf1 | 108 |FFMRTSQ.DLT.GKD.....GDLILAEY.SEEY.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Papio Anubis | 108 |FFMRTPO.DLT.GKD.....GDLILAEY.SEEY.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Papio Anubis | 108 |FFMRTPO.DLT.GKD.....GDLILAEY.SEEY.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Hylobates leucogenys | 108 |FFMRTPO.DLT.GKD.....GDLILAEY.SEEY.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Hylobates leucogenys | 108 |FFMRTPO.DLT.GKD.....GDLILAEY.SEEY.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Homo sapiens TAF1 | 108 |FFMRTPO.DLT.GKD.....GDLILAEY.SEEY.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Homo sapiens TAF1L | 108 |FFMRTPO.DLT.GKD.....GDLILAEY.SEEY.PPLVSNVGMGATKIKN.YYRKR..AG.HT.. |
| Fonticula alba | 1 |DA..... |
| Fonticula alba | 85 |TPFLLPR.DLA.LRE.IVPPADGTFPFSVYEPNDLALFEY.SEEY.PPLSRP.GMASILKHY.YRRH..NI.. |
| Fonticula alba | |DA..... |
| Spizellomyces punctatus | 97 |ELMRTPK.DIS.LKD.....ACRYALMEY.SEEY.PPIVMNT.GMGSVLVNY.YRKT..AE.KD.. |
| Allomyces macrogynus | 94 |ELLKTPR.DLT.LRD.....TGNYTLFEY.SEEY.PLLSNP.GMASFLFN.YYRKR..DD.KD.. |
| Allomyces macrogynus | |TGNYTLFEY.SEEY.PLLSNP.GMASFLFN.YYRKR..DD.KD.. |
| Allomyces macrogynus | 94 |ELLKTPR.DLT.LRD.....TGNYTLFEY.SEEY.PLLSNP.GMASFLFN.YYRKR..DD.KD.. |
| Coemansia reversa | 95 |ENPWAAK.DVT.LKD.....TADCVLIEY.SEEY.PLVSNVGMGSVLVNY.YYRKR..NI.QD.. |
| Mucor circinelloides | 98 |DIRSTK.DLT.LKD.....SDQVLMIEY.SEEH.PPILSNVGMGATKIKN.YYRKT..EP.KD.. |
| Mortierella elongata | 97 |EVMRSSK.DLT.LRD.....HTNFILFEY.SEEH.PAIVQNVGMGSILIN.YYRKE..SV.ED.. |
| Saccharomyces cerevisiae_TAF1 | 99 |ESFSTQ.DLT.IGD.....TAPVYLMIEY.SEQTP.PVALSKFGMANKLIN.YYRKA..NE.QD.. |
| Kluveromyces lactis | 99 |EIFQHSQ.DLT.VGD.....SAQVFLMEY.SEEY.PVALSKFGMANKLIN.YYRKT..GE.TD.. |
| Neurospora crassa | 99 |EVFKSTH.DLS.LND.....NSTAILFEY.CEEI.PTVLSNFGMGQKIN.YYRRA..KG.AD.. |
| Schizosaccharomyces pombe | 97 |ELMRTTK.EIT.MGD.....TTHAILFEY.SEEH.PAVLSNFGMASRIVN.YYRKR..NE.QD.. |
| Ustilago maydis | 100 |EMLRTRT.DLT.LKD.....TGPPVLYEY.SEEY.PPLSKT.GMGSLLVN.YYRKR..DA.KD.. |

240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315

Table with columns for species names, accession numbers, and sequence alignments. The alignment shows conservation levels with yellow highlighting partial conservation and red highlighting complete conservation. Conservation markers 'f', 'r', and 'lk' are present at the bottom of the alignment.

Table with columns for species names, accession numbers, and sequence alignments. The alignment shows conservation levels with yellow highlighting partial conservation and red highlighting complete conservation. Conservation markers 'e', 'mv', 'pe', 'c', 'sm', 'l', and 'g' are present at the bottom of the alignment.

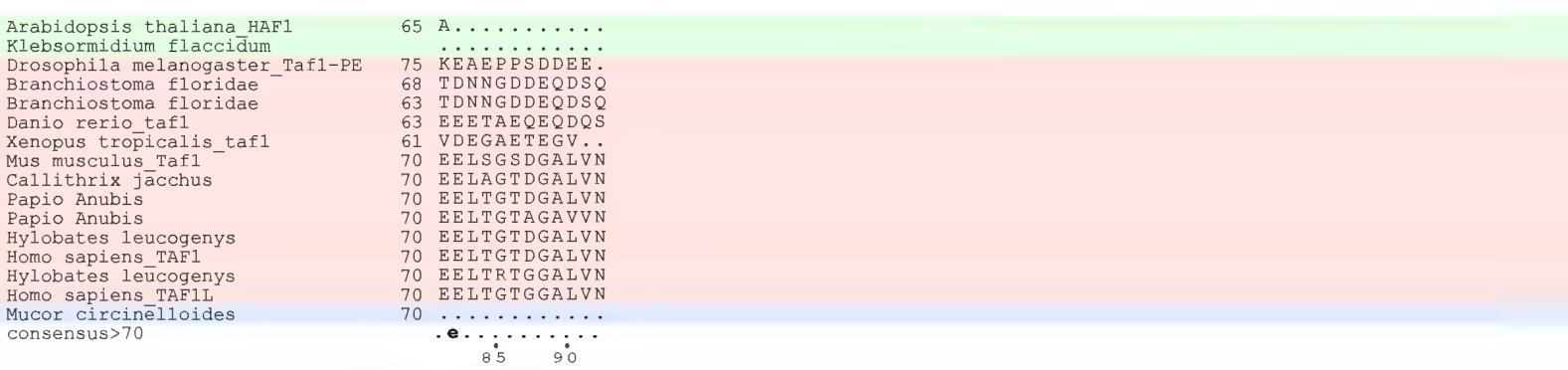
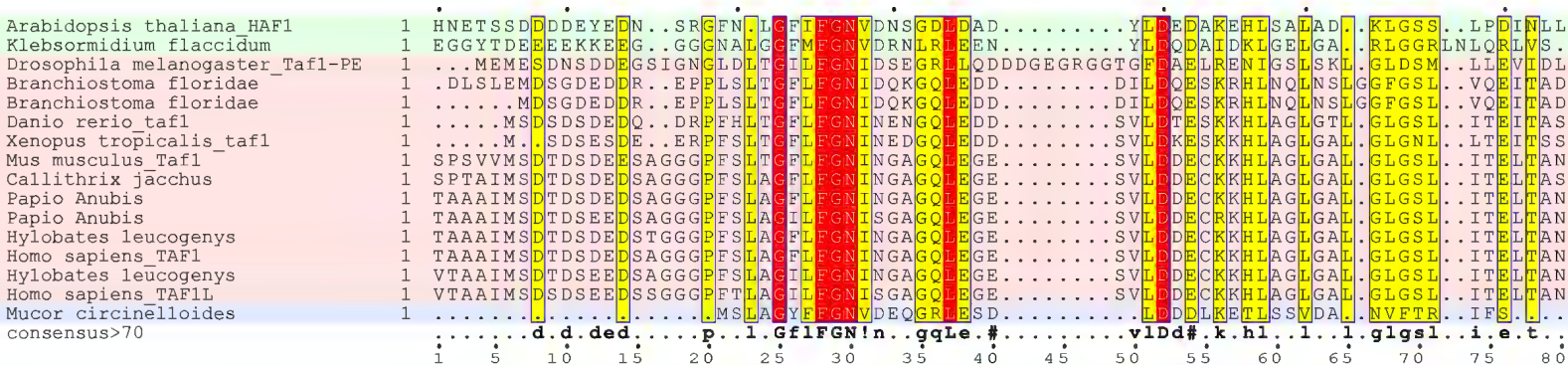
TAF1 DUF3591, mafftlinsi (conservation > 70%: yellow - partial; red - complete) - page 6

| | | |
|---------------------------------|-----|------------------------------------|
| Trichomonas vaginalis | 437 | KL.VSLGVPTGEIERLSRWNVALLRELANSKAQ |
| Trichomonas vaginalis | 442 | KL.RSYGIPEEQIARLLRWKVKLLREITSNQMK |
| Trichomonas vaginalis |  | ..... |
| Trichomonas vaginalis |  | ..... |
| Trichomonas vaginalis |  | ..... |
| Naegleria gruberi |  | ..... |
| Naegleria gruberi |  | ..... |
| Blastocystis hominis |  | ..... |
| Bigelowiella natans |  | ..... |
| Oxytricha trifallax | 492 | KL.IDLGFKEEAISSFTRWEMVALLRDKSSQAVS |
| Arabidopsis thaliana_HAF1 | 556 | VL.IKFNVPEEIIAKQTRWHRIAMIRKLSSEQAA |
| Arabidopsis thaliana_TAF1 | 549 | VL.LKFNVPEEIIAKQTRWHRIAMIRKLSSEQAA |
| Klebsormidium flaccidum | 553 | ML.LNFGVREADIPKN.RWRRIEMV..... |
| Micromonas species | 402 | IL.KGFGVPESTIKSLHRWKRIGLIRELSGAAT. |
| Cyanophora paradoxa | 555 | IITKEFGVPEDQVPTA.RW..... |
| Porphyridium purpureum |  | ..... |
| Porphyridium purpureum |  | ..... |
| Acanthamoeba castellanii | 451 | VL.LKFGVSEEDVIEKLGWRERIDLVRKSSAAAA |
| Capsaspora owczarzaki | 479 | MLQQKFGISLSQTSKMPRWDVIALLRKMSSSQG. |
| Nematostella vectensis | 455 | VL.RDFGVSEEEIKKLSRWEVIDVVRTMSTEEA. |
| Drosophila melanogaster_Taf1-PE | 451 | LL.RQFKVPEEEIKKLSRWEVIDVVRTLSTEKA. |
| Caenorhabditis elegans_Taf-1 | 447 | IC.RGYGVKEEEISALTRWEIIDVIRTLSTQAA. |
| Branchiostoma floridae | 455 | LL.RKFGVSEEEIKKLSRWEVIDVVRTMSTEQA. |
| Branchiostoma floridae | 465 | LL.RKFGVSEEEIKKLSRWEVIDVVRTMSTEQA. |
| Danio rerio_taf1 | 451 | LL.RKFGVPEEEIKKLSRWEVIDVVRTMSTEQA. |
| Xenopus tropicalis_taf1 | 452 | LL.RKFGVPEEEIKKLSRWEVIDVVRTMSTEQA. |
| Mus musculus_Taf1 | 451 | LL.RKFGVPEEEIKKLSRWEVIDVVRTMSTEQA. |
| Papio Anubis | 451 | LL.RKFGVPEEEIKKLSRWEVIDVVRTMSTEQA. |
| Papio Anubis | 452 | LL.RKFGVPEEEIKKLSRWEVIDVVRTMSTEQA. |
| Hylobates leucogenys | 451 | LL.RKFGVPEEEV.SLSRW.VIDVVR..... |
| Hylobates leucogenys | 450 | LL.RKFGVPEEEIKKLSRWEVIDVVRTMSTEQA. |
| Homo sapiens_TAF1 | 451 | LL.RKFGVPEEEIKKLSRWEVIDVVRTMSTEQA. |
| Homo sapiens_TAF1L | 451 | LL.RKFGVPEEEIKKLSRWEVIDVVRTMSTEQA. |
| Fonticula alba |  | ..... |
| Fonticula alba |  | ..... |
| Fonticula alba | 188 |NWTAR..... |
| Spizellomyces punctatus | 428 |MTNILHL..... |
| Allomyces macrogynus | 445 | AY.....HRQIREIWERQVAALSSPVATDPPL |
| Allomyces macrogynus | 127 | AY.....HRQIREIWERQVAALSSPVATAPPL |
| Allomyces macrogynus | 148 |WRTQHS..... |
| Coemansia reversa | 443 | IY.....KEEITCTWNKQFRALTRPDPPEAHE |
| Mucor circinelloides | 447 | IY.....REEIARIWKAQLDSLGNKVEPVLSD |
| Mortierella elongata | 447 | VY.....KEEITRIWNAQRAALSKEIEIDGGD |
| Saccharomyces cerevisiae_TAF1 | 438 | AY.....DEEIAKTWYTHTKSLSISNPFEEEMT |
| Kluyveromyces lactis | 432 | AY.....EEEISRTWYNQAKSLSIQNPFEEMD |
| Neurospora crassa | 451 | LY.....TEALTDIWNRRQRESLLDSQEHDDDD |
| Schizosaccharomyces pombe | 440 | AY.....EEEINRIWNAQKRLSINNLEELA. |
| Ustilago maydis | 449 | VY.....RSEIDRIWNAQCRSLSNPVPKPLTA |
| consensus>70 |  | ..... |

795 800 805 810 815 820

TAF1 TAND, mafftlini (conservation > 70%: yellow - partial; red - complete)

Supplemental Fig. S18



TAF1 ubiquitin, mafftlinsi (conservation > 70%: yellow - partial; red - complete)

Supplemental Fig. S19

| | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|---|--------|------|----------|--------|-------|-----|--------|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| Aquilegia coerulea Goldsmith | 1 | ILKSMG | GKG | SKLHVDAE | ETISSV | KARAS | KKL | DFKPS | EKV | KIIYS | GK | EL | DSKSL | AEEN | VR | PNS | VL | HL | VR | |
| Aquilegia coerulea Goldsmith | 1 | ..... | GKG | SRLHVDAE | ETISSV | KARAS | KRL | EYKPS | ENL | KIIYS | GK | EL | DSKSL | AEEN | VR | PNS | VL | HL | VR | |
| Amborella trichopoda | 1 | ILKSMG | GKG | SKLHVDAE | ETVASV | KGRAS | KKL | DFKSS | EKV | KVFYS | GK | EL | DDKSL | AQQN | VR | PNS | VL | HL | VR | |
| Arabidopsis thaliana_TAF1 | 1 | VVKSLG | GKG | SLLTVGRE | ESVSSL | KAKAS | RKL | DFKET | EAV | KMFYK | GK | EL | DEKSL | AQQN | VQ | PNS | LV | HL | LR | |
| Arabidopsis thaliana_HAF1 | 1 | IVKSLG | GKG | SKLHVGI | ESVSSL | RAKAS | RKL | DFKET | EAV | KMFYK | GK | EL | DEKSL | AQQN | VQ | PNS | LV | HL | LR | |
| Oryza sativa japonica | 1 | M..TLG | GKG | VKFLVNAE | ETPLSV | KSKAS | KKL | EFKPS | EKI | KLFCS | GK | EL | DDISL | AMQN | VR | PNS | IL | LV | VR | |
| Physcomitrella patens subsp. patens | 1 | IVKTLG | GKG | SKLTVDAE | ETLDVL | KAKTA | KKL | GDLPF | EKM | KVFYS | GK | EL | VDGYT | FAQQ | VQ | PNS | VL | HL | VR | |
| Physcomitrella patens subsp. patens | 1 | IVKTLG | GKG | SKLTVDAE | ETLDVL | KAKAA | KKL | GDLPF | EKT | KIFYS | GK | EL | VDGYT | FAQQ | VQ | PNS | VL | HL | VR | |
| Selaginella moellendorffii | 1 | .LKT | LGKG | SRLHIDAS | DTLETF | KMKAS | KKF | GDLPF | ENT | KLMYS | GK | EL | SNKSF | AEQR | VQ | PNS | VL | HL | VR | |
| Selaginella moellendorffii | 1 | .LKT | LGKG | SRLHIDAS | DTLETF | KMKAS | KKF | GDLPF | ENT | KLMYS | GK | EL | SNKSF | AEQR | VQ | PNS | VL | HL | VR | |
| Klebsormidium flaccidum | 1 | I..... | GKS | VTVRVKGS | EALAVR | GRVMS | SKW | KDVKE | ETL | RFLHAG | KE | IT | DGAPL | TDS | LR | HDS | IV | HL | LR | |
| Aquilegia coerulea Goldsmith | 1 | ..... | .. | ..... | ESVEQT | KKTI | KQF | VSTPQ | DGK | VILKE | HI | IT | DPKE | ..... | ..... | ..... | ..... | ..... | ..... |  |
| Arabidopsis thaliana_TAF1 | 1 | ..... | .. | ..... | ATSKSP | KDK | QV | KEI | .. | GTPIC | QM | KILKE | NO | ..... | ..... | ..... | ..... | ..... | ..... |  |
| consensus>70 |  | ..... | gkg | ...v... | e..... | k.k. | kk. | d..... | e..k... | g.el | d.... | a.q.v | pns | .. | hlvr | .. | .. | .. | .. | |
| | | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | | | | |

TAF1 Zf CCHC, maftlini (conservation > 70%: yellow - partial; red - complete)

Supplemental Fig. S20

| | | | | | | | | | | | | |
|---------------------------------|---|----------|----------------------------|----------|-------|--------|--------------------------|--------|----|----|----|----|
| Klebsormidium flaccidum | 1 | ...TDRV | GLKCGQV | GHS | TNR | ACPMY | NADGVEGPSR |Q | | | | |
| Acanthamoeba castellanii | 1 | ...NQLV | GACGMV | GHR | TNR | NCPLY | TEDQAAGAGA | ..... |  |  |  |  |
| Nematostella vectensis | 1 | TASIKLK | GACGQI | GHR | TNK | NCPLY | QEANPGSLS | ..... |  |  |  |  |
| Drosophila melanogaster_Taf1-PE | 1 | KPDLKLK | GACGQV | GHR | TNK | KACPLY | SGMQSSLSQS.NPSL | ..... |  |  |  |  |
| Branchiostoma floridae | 1 | QPPLKLK | GACGQI | GHR | TNKE | CPLY | ERSHAPPSHP.VAMTEEQEEEVER | | | | | |
| Branchiostoma floridae | 1 | QPPLKLK | GACGQI | GHR | TNKE | CPLY | ERSHAPPSHP.VAMTEEQEEEVER | | | | | |
| Danio rerio taf1 | 1 | RPDLKLK | GACGAI | GHR | TNK | FCPLY | YQTNAPPSNPVAMTEEQEELEK. | | | | | |
| Xenopus tropicalis taf1 | 1 | RPDLKLK | GACGAI | GHR | TNK | FCPLY | YQTNAPPSNPVAMTEEQEELEK. | | | | | |
| Mus musculus Taf1 | 1 | RPDLKLK | GACGAI | GHR | TNK | FCPLY | YQTNAPPSNP.VAMTEEQEELEK | | | | | |
| Callithrix jacchus | 1 | RPDLKLK | GACGAI | GHR | TNK | FCPLY | YQTNAPPSNPVAMTEEQEELEK. | | | | | |
| Papio Anubis | 1 | RPDLKLK | GACGAI | GHR | TNK | FCPLY | YQTNAPPSNP.VAMTEEQEELEK | | | | | |
| Papio Anubis | 1 | RPDLKLK | GACGAI | GHR | TNK | FCPLY | YQTNVPPSNP.VAMTEEQEELEK | | | | | |
| Hylobates leucogenys | 1 | RPDLKLK | GACGAI | GHR | TNK | FCPLY | YQTNAPPSNP.VAMTEEQEELEK | | | | | |
| Hylobates leucogenys | 1 | RPHLKLK | GACGAI | GHR | TNK | FCPLY | YQTNVPPSKP.VAMTEEQEELEK | | | | | |
| Homo sapiens_TAF1L | 1 | RPDLKLK | GACGAI | GHR | TNK | FCPLY | YQTNVPPSKPVAMTEEQEELEK. | | | | | |
| Homo sapiens_TAF1 | 1 | RPDLKLK | GACGAI | GHR | TNK | FCPLY | YQTNAPPSNPVAMTEEQEELEK. | | | | | |
| Coemansia reversa | 1 | ..EVIRR | GNCGEL | GHR | TNKK | CPRY | FEFNP..... | | | | | |
| Mucor circinelloides | 1 | ..EGAMRR | GNCGQL | GHR | TNKN | CPK | FYLN..... | | | | | |
| Mortierella elongata | 1 | ..KVVRQ | SNCGAL | GHR | TNKK | CPK | VDESGALPNLGV..... | | | | | |
| Saccharomyces cerevisiae | 1 | ..NTTRR | GATCGQI | GHR | TNKS | CPMY | SSKDNPASPK..... | | | | | |
| Kluyveromyces lactis | 1 | ..NTTRR | GATCGAI | GHR | TNKS | CPMY | NGGVAANAA..... | | | | | |
| Schizosaccharomyces pombe | 1 | ..KPTTR | SNCGQV | GHR | TNK | CPLE | GRPE..... | | | | | |
| consensus>70 |  | ..... | Cg.CG.iGHmrTNk.CP1% | n | ..... |  |  |  |  |  |  |  |
| | | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |

TAF3 PHD, mafftlinsi (conservation > 70%: yellow - partial; red - complete)

Supplemental Fig. S22

| | | | | | | | | | | | | | | | | | |
|-------------------------|---|-------|-----|------------|-----|-------|-----|------|-------|------|----------|------|-----|------|-------|------------|----|
| Drosophila melanogaster | 1 | .VDAE | GNR | IWICPACGKV | DDG | SAMIG | CDG | CDAY | YHWI | CVGI | ITFAPKDN | DD | WFC | RV | CVTK | .KRIHGSEKK | |
| Branchiostoma floridae | 1 | .VGPE | GET | IWICPACSRP | DDG | SPMVG | CDN | CDD | YHWPC | CVGI | ITEEPT | ..DK | WFC | PR | CSVQ | .PKAQGKKKT | |
| Danio rerio taf3 | 1 | .RDEW | GNQ | IWICPGCNKA | DDG | SPMIG | CDE | CDD | YHWPC | CVGI | LLAAPP | ED | QSW | FCK | CAGK | .KKDKKTKK. | |
| Xenopus tropicalis taf3 | 1 | .RDEW | GNQ | IWICPGCNKA | DDG | SPMIG | CDL | CDD | YHWPC | CVGI | INAAPP | ED | EQW | FCK | CESK | .KKDKKHKRR | |
| Mus musculus Taf3 | 1 | .RDEW | GNQ | IWICPGCNKP | DDG | SPMIG | CDD | CDD | YHWPC | CVGI | IMAAPP | EE | MQW | FCK | CANK | .KKDKKHKRR | |
| Homo sapiens TAF3 | 1 | .RDEW | GNQ | IWICPGCNKP | DDG | SPMIG | CDD | CDD | YHWPC | CVGI | IMTAPP | EE | MQW | FCK | CANK | .KKDKKHKRR | |
| Allomyces macrogynus | 1 | GGKRA | ADE | TRCMCDHARN | DDG | GF | MVA | CD | A | CHV | WFH | GK | CVG | VAL | GLVLD | GDQWVC | |
| Allomyces macrogynus | 1 | PVARG | DE | TRCMCDHARN | DDG | GF | MVA | CD | A | CHV | WFH | GK | CVG | VAL | GLVLD | GDQWVC | |
| Mortierella elongata | 1 | .VDD | SEV | INCICSNPTL | DDG | LF | MIA | CD | R | CEV | WFH | GR | CVG | VREG | DAV | ..KT | |
| consensus>70 | | .. | g# | I | .. | DDG | .. | M! | CD | CD | W | H | .. | CVGi | .. | ed | .. |
| | | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | |

| | | |
|------------------------------|----|--------------------------------------------------------------------------------|
| Naegleria gruberi | 1 |HSYY |
| Oxytricha trifallax | 1 |D.....FEKKSQILAQ.....NQNMIREQ |
| Arabidopsis thaliana_TAF4 | 1 | ..NSMDQSIQQLNDVTAVS..GVN.....LREEEQLF..SGAKEDGRVSEASRR |
| Arabidopsis thaliana_TAF4 | 1 | ..TSSDESIEKFNVDVTAVS..GIN.....LREEEKQLD..SGPKKNDRVSKAYRR |
| Klebsormidium flaccidum | 1 | ..QQRDDVDVTRLQDVTAVA..GLD.....LEQEAQQSMALAGPIGDSSANEARL |
| Micromonas species | 1 | ..PEKNFPEADDVLTTLA..GVD.....PNDEARLMLA.QGS...HDDQSFHGR |
| Porphyridium purpureum | 1 |ERQELLN |
| Porphyridium purpureum | 1 | ...KARTEDEEELDMVYAA..GID.....VENEDEDVF.....VDEDEHTQG |
| Porphyridium purpureum | 1 | ...KVRTEDEEELDMVYAA..GIN.....VENEDDDL.....LDEDEHTQG |
| Acanthamoeba castellanii | 1 | ..LDDKFNVKDITDVTRMA..GFNLKARTIHSLVHQSAALRVAAANVPPPHAMQEETASLLP.....TYSTAGGEERA |
| Capsaspora owczarzaki | 1 | ..AAGNNEI DHNDLLAVA..GVD.....EAEENELLKQ.....SFTLRRPEK |
| Nematostella vectensis | 1 | GISS.SGDDDDINDVTSMA..GVN.....LMEESQRIL.....AINSELSS |
| Nematostella vectensis | 1 | NNGF.....EVVGE |
| Drosophila melanogaster_Taf4 | 1 | MSSM.YGDDDDINDVAAMG..GVN.....LAEESQRIL.....GC.TENIGT |
| Caenorhabditis elegans_taf-4 | 1 |ATRQ |
| Branchiostoma floridae | 1 |RDDDDINDVASMA..GVN.....LSEESARIL.....ATNSELVAT |
| Branchiostoma floridae | 1 |RDDDDINDVASMA..GVN.....LSEESARIL.....ATNSELVAT |
| Branchiostoma floridae | 1 |LSEESARIL.....ATNSELVGA |
| Danio rerio_taf4 | 1 | GGTF.RDDDDINDVASMA..GVN.....LSEESARIL.....ATNSELVGA |
| Danio rerio_taf4 | 1 | GGTF.RDDDDINDVASMA..GVN.....LNEENARIL.....ATGSELVGT |
| Danio rerio_taf4 | 1 |LNEENARIL.....ATGSELVGT |
| Danio rerio_taf4 | 1 |LNEENARIL.....ATGSELVGT |
| Danio rerio_taf4b | 1 | SGSF.RDDDDINDVASMA..GVN.....LSEENARIL.....ASGSELVGS |
| Latimeria chalumnae | 1 | GGSF.RDDDDINDVASMA..GVN.....LSEESARIL.....ATNSELVGT |
| Latimeria chalumnae | 1 | VPSF.REEDDDINDVASMA..GVN.....LSEENARIL.....ATNSELVGS |
| Latimeria chalumnae | 1 | GGSY.REEDEINDVASMA..GVN.....LSEESAQIL.....ATNSDLVGT |
| Xenopus tropicalis_taf4b | 1 | GTSF.REEDDDINDVTSMA..GVN.....LSEESACIL.....AANSELVGA |
| Xenopus tropicalis_taf4 | 1 | GGSF.RDDDDINDVASMA..GVN.....LSEESARIL.....ATNSELVGT |
| Mus musculus_Taf4b | 1 | PTCF.RGEDDDINDVTAMA..EVN.....LDEENACIL.....AAHSDVFGT |
| Mus musculus_Taf4a | 1 | GGSF.RDDDDINDVASMA..GVN.....LSEESARIL.....ATNSELVGT |
| Homo sapiens_TAF4b | 1 | TSCF.RDEDDINDVTSMA..GVN.....LNEENACIL.....ATNSELVGT |
| Homo sapiens_TAF4 | 1 | GGSF.RDDDDINDVASMA..GVN.....LSEESARIL.....ATNSELVGT |
| Spizellomyces punctatus | 1 | ..PTKLDVQSMMDATSYT..GVN.....IREEDNIMS.TVMM..PSAGQYQVP |
| Allomyces macrogynus | 1 | ..KAAGDDEDQALATL..GVN.....LEHEEEMLRT.R.....TAGAAGAP |
| Allomyces macrogynus | 1 |LEHEEEMLRT.R.....TAGAAGAP |
| Coemansia reversa | 1 |LEHEEEMLRT.R.....TAGAAGAP |
| Mucor circinelloides | 1 | ..GGDRIDYDTLTDVMGYA..GVD.....LKEEAEHFMK.DGD...GSGGVLPD |
| Mucor circinelloides | 1 |QTNQSV.....APDQTKAEIAP.....AKTEAT |
| Mortierella elongata | 1 |RAF |
| Mortierella elongata | 1 | ..EKVNYDNI TDVMGYV.GGVD.....LREETDNIMR.DSDGY..SKSG.GGD |
| Saccharomyces cerevisiae | 1 | ..AQQSDPNKMQDVLFS.A.GID.....VREEAALLNS.SIN..ASKSQVQTN |
| Kluyveromyces lactis | 1 | ..KPPQSDPDKLSDALLS.A.GVD.....IREEALLSS.TVA..RTKATGISA |
| Neurospora crassa | 1 |SWIPVD |
| Schizosaccharomyces pombe | 1 | ..GGDRQEAQDLQDALISC..GIQ.....LKEEELNLS..TSFYDPSSLNTFALT |
| Ustilago maydis | 1 | ..PEQKDNFDSLVDVMGAS..GVD.....LQAEEEAIQR.RELM..QQSQNAQHN |
| consensus>70 | |n.....e |
| | | 1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 |
| Naegleria gruberi | 5 | SSRFQPEVSNFLNSTNLRNKINRIL.....KTQQLK..PTVSDALVEFISLAVQDRMRSIVEEELVLNKSRTMPTP |
| Oxytricha trifallax | 20 | ERQRKQLQSMFLNHKVLLEEQLRSIM.....SKYGIR..NMDNEVMFMSEAMKCRYTNIQELIAISRSQSNS |
| Arabidopsis thaliana_TAF4 | 45 | VVHEEERLLQKNIPLQKRLABEIM.....AKAGLK..QISNDVERCLSLCVEEEMRGLLSHIIRLSKQVDAE |
| Arabidopsis thaliana_TAF4 | 46 | LHGEERTLQKIPLQKRLTEIM.....GKSGLK..HIDHDVERCLSLCVEEEMRGLLNIIRISKQVDAE |
| Klebsormidium flaccidum | 47 | RIAEEDRFLVNEAVLRARASGLA.....AKRGIP..RVGEDVYKCLSMAVEDLRGLMLHRLVKLKQRTDVR |
| Micromonas species | 41 | RAKKNSSRKLTELICIFARVIGQL.....PRSGIC..KVDNKAYDLLEALQIHLRCLIMKIFNRALQNDKSK |
| Porphyridium purpureum | 8 | ...DGESLNLNLEFLKSMEMKA.....SDRVS..SIDTECVPLQLQVAVRMRLSKILEQLVLKASRQEYEL |
| Porphyridium purpureum | 37 | ELEPEDVGKLVNSGSVEKIMERVV.....RRTRGVR..QVRRECVELLSLAVRELRQSLLERLNQISNARQEV |
| Porphyridium purpureum | 37 | ELEPEDDFKFNPNPVSVEKIMELVXXXXXXXXXXXXXRR..QVRRECVELLSLAVRELRQSLLERLNQISNARQEV |
| Acanthamoeba castellanii | 68 | HAPDEVQSPFINKGALHKKVTEIA.....AKHGK..KVSEELYEFLALAQNRDRDVDELGNISKQLDFY |
| Capsaspora owczarzaki | 39 | VVVIPVEPQFINRENITRKVQVVA.....SAAGLF..IEDLDVNEFLGHALELRLNILEKLFVISEHRYEVF |
| Nematostella vectensis | 39 | QTRSCRDELFLNHDALQKKLEVIA.....KIE |
| Nematostella vectensis | 10 | V.....KKQGLG..NIHQDVCGLISHAQEERLNILEKLTISTISLNRPESY |
| Drosophila melanogaster_Taf4 | 38 | QIRSCKDEVFLNPLSQLARIRAIT.....SEAGLD..EPSQDVAVLISHAQEERLNILEKLTIVIRHMEAY |
| Caenorhabditis elegans_taf-4 | 5 | YPEGSLKSSILKPDEVLNRRITKRM.....MSS.C..SVEEEALVAISDAVESHLRELITLMAGVAEHRVESL |
| Branchiostoma floridae | 35 | ELRSCKDETFLTSAPLRKRILEIG.....QS |
| Branchiostoma floridae | 35 | ELRSCKDETFLTSAPLRKRILEIG.....RKHGLE..DASPDVVSLSVSHAAEERLNRLLEKLTIVIRHMEAY |
| Branchiostoma floridae | 1 |RKHGLE..DASPDVVSLSVSHAAEERLNRLLEKLTIVIRHMEAY |
| Branchiostoma floridae | 1 |RKHGLE..DASPDVVSLSVSHAAEERLNRLLEKLTIVIRHMEAY |
| Danio rerio_taf4 | 39 | VTRSCKDEAFLSASMLQHKILEIG.....QRFGVT..DLGPEVVNIVSHATQQLQNLEKVSIAQQNMTY |
| Danio rerio_taf4 | 39 | QIRSCKDEAFLPASLLHKKRILETA.....KKFGVT..EVSMETVTLISHATQSLRSLMLEKVSVAQHRRADSC |
| Danio rerio_taf4 | 1 |MKQRKRCW |
| Danio rerio_taf4b | 39 | VIRSCQEEPFLFSPALQTRVLHIG.....GSLGVT..EVCPDVLELISLQATQERLRLDLEKITAVAQHRQISY |
| Latimeria chalumnae | 39 | LTRSCKDEAFLPAPLNRRIEIG.....KKYGIT..EIHDPDVNYMSHAQHRLNQNLVEKASEIAQQRNISY |
| Latimeria chalumnae | 39 | VIRSCKDEPFLFTGPLQKILEIG.....KKHNT..ELSSDAVNFVSHAQERLRGLLEKLTIVIAQHRVAVS |
| Latimeria chalumnae | 39 | QIRSCKDEAFLDGPLHKKRILETA.....KRFGVT..EVPNEVVSFVSHATQDLRSLMIEKVTVIAQHRMETY |
| Latimeria chalumnae | 1 | ...LSLRWLQAIIRLIA.....KRFGVT..EVPNEVVSFVSHATQDLRSLMIEKVTVIAQHRMETY |
| Xenopus tropicalis_taf4b | 39 | VIRSCKDEPFLFTSALGNRIIDIG.....KRHDIK..ELNSDVMNLSVSHATQERLRGLIEKLTAAQHRSTNY |
| Xenopus tropicalis_taf4 | 39 | LTRSCKDETFLLPALLQRRILEIG.....KKHGIT..EIHQDVVSYSVSHAQQLQNIVEKISETAQQKNISH |
| Mus musculus_Taf4b | 39 | LQSCKEEPFLVIGALQKRILDIG.....KKHDIT..ELNSDAVNLISHAQERLRGLLEKLTIVIAQHRMETY |
| Mus musculus_Taf4a | 39 | LTRSCKDDTFLPLPAPLQRRILEIG.....KKHGIT..ELHPDVVSYSVSHAQQLQNIVEKISETAQQKNFSY |
| Homo sapiens_TAF4b | 39 | LQSCKEEPFLFIPALQKRILDIG.....KKHDIT..ELNSDAVNLISHAQERLRGLLEKLTIVIAQHRMETY |
| Homo sapiens_TAF4 | 39 | LTRSCKDETFLTQAPLQRRILEIG.....KKHGIT..ELHPDVVSYSVSHAQQLQNIVEKISETAQQKNFSY |
| Spizellomyces punctatus | 43 | GLSRVRDQSFNIPALRKKVEAIA.....KDCNVS..HVEADLLSYIALAQEEMRDLMERMVVAAKHRTGLM |
| Allomyces macrogynus | 37 | ATQAVERLHVNVPAIRSRMEQIA.....GREGLA..HVSESALHFLALAQEERLRTVTVDAVHAANQRTG |
| Allomyces macrogynus | 1 |AASLPALS |
| Coemansia reversa | 1 | ...AVATAIEVRIARIC.....RSAHIG..AVAADVAPCLALAQQLRRTFMERVSAAAHHRTRTQ |
| Mucor circinelloides | 42 | GVDRSKVQDFMNTDLLTKKILKYA.....KCVNIK..KIDSDVFSYLALATQDLRRTVLESMTVASKHRTFDP |
| Mucor circinelloides | 24 | EQASGIAQDFMNPMLKEILGKYT.....TAAGL..KLDNNVVALIALATEKRIHGLVQHMI FASKHRVDSQ |
| Mortierella elongata | 4 |RVLFVLA.....RRHELQ..KVEREVLYALATMQRLRVLIERMIHVSRHRRSS |
| Mortierella elongata | 42 | GQDRTRIQN FVDSGLLKTIERIA.....ATHKIQ..TVEPDVLA YAMATAQERLRGLVEKISETAQQKNFSY |
| Saccharomyces cerevisiae | 43 | NVKIPNHLFLFHPEQVSNMYMRKVG.....KEQNFNLTPTKNPEILDMMSSACENYMRDILTNAIVSIRHRKAV |
| Kluyveromyces lactis | 43 | NNQVSPHPFLHFKPNISDFMKRIA.....SEQNFHQDFNKNTDILGLMSTACELYMRDVTINSILSITHRRKGV |
| Neurospora crassa | 7 |SYLSDQIALSIAATKYRIRQIIESAHTIAINRQTTS |
| Schizosaccharomyces pombe | 45 | TRDRSRKSDFLNSFVLMQTVSNIV.....NLHRLK..SMDSDIHALISMVRYLANLQMKIVESHRTSQL |
| Ustilago maydis | 44 | GAQPDDDDHFLQMYPLAYKVHTLA.....QQHGL..SMDAAVLNLSIAARTRLKNILESMIASSHRBWS |
| consensus>70 | |d.....a.q.r.l.....r |
| | | 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 |

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|------------------------------|-----|--------------|----------------------------------------------------------------|---------------|------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Naegleria gruberi | 72 | IN | ASDNTSFIETISNSNY | SLVNRE | KIKQKILQED | | | | | | | | | | | |
| Oxytricha trifallax | 86 | YL | INKNSVAREVTEVHTYNIQTRD | IQSQ | PSIGAQKQTS | | | | | | | | | | | |
| Arabidopsis thaliana_TAF4 | 111 | KS | RHRTFITSD | IRLQ | NEMNQKVKEE | | | | | | | | | | | |
| Arabidopsis thaliana_TAF4 | 112 | KC | RNRFTITSD | IRKE | NEMNQKVKEE | | | | | | | | | | | |
| Klebsormidium flaccidum | 113 | KG | RFTYTHYN | TREE | LKIRTRAEAV | | | | | | | | | | | |
| Micromonas species | 106 | PS | LGRSNTHSE | PKQR | TRQINVDAEAV | | | | | | | | | | | |
| Porphyridium purpureum | 68 | GR | QRNYTRTLDFNSF | PNVRSQ | RELRTTEEIHD | | | | | | | | | | | |
| Porphyridium purpureum | 104 | RKLWGA | KATYAVKD | VRGE | DKLRKEEVRO | | | | | | | | | | | |
| Porphyridium purpureum | 110 | RKLWGA | KATYAVED | VRGE | DKLRKEEVRO | | | | | | | | | | | |
| Acanthamoeba castellanii | 134 | KD | EMKIEITSD | PRKO | KLIEKREKEE | | | | | | | | | | | |
| Capsaspora owczarzaki | 105 | RT | LYPTTTTSE | PKRL | TLLQRVDAEA | | | | | | | | | | | |
| Nematostella vectensis | | | | | | | | | | | | | | | | |
| Nematostella vectensis | 53 | RD | DPRYEGGLE | TKAQ | RVFEQIDEVE | | | | | | | | | | | |
| Drosophila melanogaster_Taf4 | 104 | KL | DRYEPAKD | VRGO | KFLEELDKAE | | | | | | | | | | | |
| Caenorhabditis elegans_taf-4 | 69 | RI | PENYVAIDD | VKRO | RFLEDLDRQE | | | | | | | | | | | |
| Branchiostoma floridae | 61 | | | | SFLDFFLSEI | | | | | | | | | | | |
| Branchiostoma floridae | | | | | | | | | | | | | | | | |
| Branchiostoma floridae | 43 | KD | DSRYEVTGQ | VRQQ | KFLEELDRLE | | | | | | | | | | | |
| Branchiostoma floridae | 43 | KD | DSRYEVTGQ | VRQQ | KFLEELDRLE | | | | | | | | | | | |
| Danio rerio_taf4 | 105 | KE | DSRYEVED | VRAQ | KFFEQLDQLE | | | | | | | | | | | |
| Danio rerio_taf4 | 105 | KD | EDLYEQTSD | VRTQ | KFFEQLDQIE | | | | | | | | | | | |
| Danio rerio_taf4 | | | | | | | | | | | | | | | | |
| Danio rerio_taf4 | 10 | KDP | A | RSEEDWCEPSSD | VRAQ | KFFEQLERME | | | | | | | | | | |
| Danio rerio_taf4b | 105 | RD | DWRYTQTN | TRSQ | KFLEQLERLE | | | | | | | | | | | |
| Latimeria chalumnae | 105 | KD | DERYEQVSD | VRAQ | KFFEQLDQIE | | | | | | | | | | | |
| Latimeria chalumnae | 105 | KD | DGRYVLADD | TRSQ | KFLEQLDRIE | | | | | | | | | | | |
| Latimeria chalumnae | 105 | KD | DEWYEQATD | VRSQ | KFFEQLERLE | | | | | | | | | | | |
| Latimeria chalumnae | 57 | KD | DEWYEQATD | VRSQ | KFFEQLERLE | | | | | | | | | | | |
| Xenopus tropicalis_taf4b | 105 | KQ | SDRYLKYS | VRAQ | KFLEQLHLE | | | | | | | | | | | |
| Xenopus tropicalis_taf4 | 105 | KD | DDRYEQTSD | VRTQ | KFFEQLDQIE | | | | | | | | | | | |
| Mus musculus_Taf4b | 105 | KG | SENYILSTD | TRSQ | KFLEKLDQLE | | | | | | | | | | | |
| Mus musculus_Taf4a | 105 | KD | DDRYEQASD | VRAQ | KFFEQLDQIE | | | | | | | | | | | |
| Homo sapiens_TAF4b | 105 | KA | SENYILCSD | TRSQ | KFLEKLDQLE | | | | | | | | | | | |
| Homo sapiens_TAF4 | 105 | KD | DDRYEQASD | VRAQ | KFFEQLDQIE | | | | | | | | | | | |
| Spizellomyces punctatus | 109 | HEYFLKQERERI | AKGQEGLELQVVKRDD | VRRK | AVIERREREQ | | | | | | | | | | | |
| Allomyces macrogynus | | | | | | | | | | | | | | | | |
| Allomyces macrogynus | | | | | | | | | | | | | | | | |
| Coemansia reversa | 59 | T | LPPPLDPA | TRLPLYKITPNQD | VRRQ | LIVERADRRLR | | | | | | | | | | |
| Mucor circinelloides | 108 | FQ | KPPLSE | DGHPLFKIQVKQN | VKLO | EAIEHVSQRS | | | | | | | | | | |
| Mucor circinelloides | 89 | TF | TQPAMDE | SGHLPFKIVDIQD | IKKO | LAVERVEREE | | | | | | | | | | |
| Mortierella elongata | 53 | SETFGPPLMYD | IDHAMFHLGIGQD | VKKQ | LAIERVEREE | | | | | | | | | | | |
| Mortierella elongata | 108 | AT | ANPPMYD | EEHAMYRVGVSSE | VKKQ | LAVERVEREE | | | | | | | | | | |
| Saccharomyces cerevisiae | 112 | KI | NSG | RRSE | VSAALRAIALIQKKE | | | | | | | | | | | |
| Kluyveromyces lactis | 112 | KL | NTG | RRSE | VSRSLRDLALRQKTIQ | | | | | | | | | | | |
| Neurospora crassa | 43 | RG | EVPAEWADVAVPLKKTGLNDALQEGMEAAAAGVGPQPNPLKRSYDAAKLNDPNLTKHNLTTA | LRDTARADNRL | | | | | | | | | | | | |
| Schizosaccharomyces pombe | 111 | H | | TDNKQVDN | VRQTANFAYKEYES | | | | | | | | | | | |
| Ustilago maydis | 109 | HQ | HPPPIFPS | TSEPMYHEQIISD | PIKQ | LALEKAERGO | | | | | | | | | | |
| consensus>70 | | | | d | q1 | e.e.e | | | | | | | | | | |
| | | 155 | 160 | 165 | 170 | 175 | 180 | 185 | 190 | 195 | 200 | 205 | 210 | 215 | 220 | 225 |

| | | | | | | | | | | | | | | | | |
|------------------------------|-----|--------------------------------------------------|-------------------|---------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Naegleria gruberi | 107 | EQRREEE | ERSKEAQRKKQ | | | | | | | | | | | | | |
| Oxytricha trifallax | 125 | ASKNPQONPETGGQRPIVKDGSDFEICTSNAGLDFRQIIEEETRRKDM | KRQLILEELQSANGVVP | GADQKGI | | | | | | | | | | | | |
| Arabidopsis thaliana_TAF4 | 137 | WEKKQA | EAEKLLKPPSES | | EEGD | | | | | | | | | | | |
| Arabidopsis thaliana_TAF4 | 138 | WEKKHSG | EEN | | | | | | | | | | | | | |
| Klebsormidium flaccidum | 139 | FGAREAR | EQEKLRLQMLAK | | | | | | | | | | | | | |
| Micromonas species | 133 | KRERVDI | ERKALLRVGESILS | | | | | | | | | | | | | |
| Porphyridium purpureum | 100 | LNEAAAR | RRRSHVRPVKT | | | | | | | | | | | | | |
| Porphyridium purpureum | 134 | LDVLMGRK | RRQLEEAEN | | GGV | | | | | | | | | | | |
| Porphyridium purpureum | 140 | LDVLIIEGRK | RRQDDMDAEN | | GGA | | | | | | | | | | | |
| Acanthamoeba castellanii | 160 | KERRDAE | EKERALKDKKM | | | | | | | | | | | | | |
| Capsaspora owczarzaki | 131 | EAARQEH | EREAILRAFKD | | | | | | | | | | | | | |
| Nematostella vectensis | | | | | | | | | | | | | | | | |
| Nematostella vectensis | 79 | RKKRELR | EREVLMRAAKS | | | | | | | | | | | | | |
| Drosophila melanogaster_Taf4 | 130 | QKRHEEL | EREMLLRAAKS | | | | | | | | | | | | | |
| Caenorhabditis elegans_taf-4 | 95 | EELRESR | EKESLIRMSKN | | | | | | | | | | | | | |
| Branchiostoma floridae | 70 | | IL | | | | | | | | | | | | | |
| Branchiostoma floridae | | | | | | | | | | | | | | | | |
| Branchiostoma floridae | 69 | KKRHDEQ | EREMLLRAAKS | | | | | | | | | | | | | |
| Branchiostoma floridae | 69 | KKRHDEQ | EREMLLRAAKS | | | | | | | | | | | | | |
| Danio rerio_taf4 | 131 | KQKKEEQ | EREILMKAAS | | | | | | | | | | | | | |
| Danio rerio_taf4 | 131 | KQRKDDE | EREILLMKAAS | | | | | | | | | | | | | |
| Danio rerio_taf4 | 1 | | IAYISQS | | | | | | | | | | | | | |
| Danio rerio_taf4 | 42 | KQRKDER | EREILLRAAKS | | | | | | | | | | | | | |
| Danio rerio_taf4b | 131 | KQKREEE | ERETLLRIARS | | | | | | | | | | | | | |
| Latimeria chalumnae | 131 | KQRKDEQ | EREILMRAAKA | | | | | | | | | | | | | |
| Latimeria chalumnae | 131 | KQKKEEE | EREVLLKAAS | | | | | | | | | | | | | |
| Latimeria chalumnae | 131 | KQRKDEQ | EREILLKAAS | | | | | | | | | | | | | |
| Latimeria chalumnae | 83 | KQRKDEQ | EREILLKAAS | | | | | | | | | | | | | |
| Xenopus tropicalis_taf4b | 131 | KQRRNEE | EREMLLRAAKS | | | | | | | | | | | | | |
| Xenopus tropicalis_taf4 | 131 | KQRKDEQ | EREILMRAAKS | | | | | | | | | | | | | |
| Mus musculus_Taf4b | 131 | KQRKDLE | EREMLLKAAS | | | | | | | | | | | | | |
| Mus musculus_Taf4a | 131 | KQRKDEQ | EREILMRAAKS | | | | | | | | | | | | | |
| Homo sapiens_TAF4b | 131 | KQRKDLE | EREMLLKAAS | | | | | | | | | | | | | |
| Homo sapiens_TAF4 | 131 | KQRKDEQ | EREILMRAAKS | | | | | | | | | | | | | |
| Spizellomyces punctatus | 152 | EKKLKALRAAT | EEGNVNPEVDGADSAPA | | GGK | | | | | | | | | | | |
| Allomyces macrogynus | | | | | | | | | | | | | | | | |
| Allomyces macrogynus | | | | | | | | | | | | | | | | |
| Coemansia reversa | 97 | EQTRRA | TRDREQLHDEPAASE | | DAD | | | | | | | | | | | |
| Mucor circinelloides | 144 | ELDLDP | DEE | | | | | | | | | | | | | |
| Mucor circinelloides | 126 | ERKRKEILL | ERERKAQMGE | | GG | | | | | | | | | | | |
| Mortierella elongata | 92 | ELKYKEHIAV | LHEQKLAASED | | AKGD | | | | | | | | | | | |
| Mortierella elongata | 145 | ETKRKEHIA | ERERRLAAGEDLDENG | | DPRGGP | | | | | | | | | | | |
| Saccharomyces cerevisiae | 136 | EERRVKKRIALGL | | | | | | | | | | | | | | |
| Kluyveromyces lactis | 136 | EERRVQRRIALGL | | | | | | | | | | | | | | |
| Neurospora crassa | 117 | EEARLRKRQ | KRONPDTATGG | | TGSRAGS | | | | | | | | | | | |
| Schizosaccharomyces pombe | 136 | EERRRTVLNIR | RAEHEARLAEELNS | | | | | | | | | | | | | |
| Ustilago maydis | 147 | EARRRRERL | ARDQESSALAA | | GYGADDD | | | | | | | | | | | |
| consensus>70 | | | e | | | | | | | | | | | | | |
| | | 230 | 235 | 240 | 245 | 250 | 255 | 260 | 265 | 270 | 275 | 280 | 285 | 290 | 295 | 300 |

| | | |
|------------------------------|-----|-----------------------------------------------------------------------------|
| Naegleria gruberi | 125 |SGSSEG.....KRRRN.....QSSKEDEE |
| Oxytricha trifallax | 198 | AGABSIIPIPLPSTQIDSSLNKALSQDPKQPTLQQNTSQFEDDTTADDGSILGPGGIRKQKQKHLDSKQLQIKEQ |
| Arabidopsis thaliana_TAF4 | 158 |GGVDSEK..D.....KEDNRSKGVK.....GNKEDDDK |
| Arabidopsis thaliana_TAF4 | 149 |KENDT.E.....KEDQRSNEVK.....ANKKDEDK |
| Klebsormidium flaccidum | 157 |KNKGPLTDP.E.....LEKRRQDALK.....LKEKDEEK |
| Micromonas species | 154 |KRRTRAG.D.....DSHLKEKVAR.....LRQEER |
| Porphyridium purpureum | 118 |SKNVHSE.AS.....EKARI.....LKHD |
| Porphyridium purpureum | 157 | IPED.....RTPRPDD.N.....AKRAENKAVI.....EKKRQDES |
| Porphyridium purpureum | 163 | ITED.....RTPIPDD.N.....AKRAENKAVI.....EKKRQDES |
| Acanthamoeba castellanii | 178 |DP.E.....KKKSDQ.....ARLEEEEK |
| Capsaspora owczarzaki | 149 |RKNLDDE.Q.....RERAKR.....LQADADIR |
| Nematostella vectensis | |RSRQEDP.E.....QARLKEKAKO.....LQQEER |
| Nematostella vectensis | 97 |RSRVEDP.E.....QAKMKARAKE.....MQRAEMEE |
| Drosophila melanogaster_Taf4 | 148 |KNSGKET.....IEKAKE.....MQRQDAEA |
| Caenorhabditis elegans_taf-4 | 113 | ..... |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae | 87 |RSRQEDP.E.....QLKLKQKAKE.....LQQEELK |
| Branchiostoma floridae | 87 |RSRQEDP.E.....QLKLKQKAKE.....LQQEELK |
| Danio rerio_taf4 | 148 |VSKPPP.A.....ILALS..... |
| Danio rerio_taf4 | 149 |RSRQEDP.E.....QARLQKQAKE.....MQQELAQ |
| Danio rerio_taf4 | 9 |RSRQEDP.E.....QLRLKQKAKE.....MQQELAQ |
| Danio rerio_taf4 | 60 |RSRQEDP.E.....QARLQKQAKE.....MQQELAQ |
| Danio rerio_taf4b | 149 |RSNSEDP.E.....QQLRKQRAKE.....MQQELAQ |
| Latimeria chalumnae | 149 |SA..... |
| Latimeria chalumnae | 149 |RTNKEDP.E.....QMRLKQKAKE.....MQQELAQ |
| Latimeria chalumnae | 149 |RSRQEDP.E.....QARLQKQAKE.....MQQELAQ |
| Latimeria chalumnae | 101 |RSRQEDP.E.....QARLQKQAKE.....MQQELAQ |
| Xenopus tropicalis_taf4b | 149 |RSNREDP.E.....QLRLKQKAKE.....LQQMELEQ |
| Xenopus tropicalis_taf4 | 149 |RSRQEDP.E.....QLRLKQKAKE.....MQQELAQ |
| Mus musculus_Taf4b | 149 |RSNKEDP.E.....QLRLKQKAKE.....LQQEELAQ |
| Mus musculus_Taf4a | 149 |RSRQEDP.E.....QLRLKQKAKE.....MQQELAQ |
| Homo sapiens_TAF4b | 149 |RSNKEDP.E.....QLRLKQKAKE.....LQQEELAQ |
| Homo sapiens_TAF4 | 149 |RSRQEDP.E.....QLRLKQKAKE.....MQQELAQ |
| Spizellomyces punctatus | 183 | VGTVG.....TAGASKDK.....EEGVKKKKKS.....VKEKDMPEE |
| Allomyces macrogynus | 101 |ASLHRD..... |
| Allomyces macrogynus | 12 |ERKERA.N.....IAEE |
| Coemansia reversa | 122 | GEPRA.....QTSKRS.....RKKDDATEP.PTYNSKNMPED |
| Mucor circinelloides | |DAGDDDR.....PSKSKKKKEMG.PGVTARYMSDD |
| Mucor circinelloides | 148 |DAGDDDR.....PSKSKKKKEMG.PGVTARYMSDD |
| Mortierella elongata | 118 | GG.....KAKKRVSGD.....DAKVKEPKLVL.....KKEK |
| Mortierella elongata | 176 | GGAGA.....KKS.....KKQKEGG.PGVSARNMTEE |
| Saccharomyces cerevisiae | 149 |EKEDY.....ENKIDSEE |
| Kluyveromyces lactis | 149 |EKQTT.....DARLDTEE |
| Neurospora crassa | 144 | VAPGT.....PTTADADG.....KLPSKKELKRG.....AAAAKLAET |
| Schizosaccharomyces pombe | 160 |ASTNEEG.S.....SRRRKEQSS.....AAAKNISED |
| Ustilago maydis | 175 | IDDGT.....GTPKPDG.....RKRPKKVGPGVAARNMSED |
| consensus>70 |  | ..... |

305 310 315 320 325 330 335 340 345 350 355 360 365 370 375 380

| | | |
|------------------------------|-----|-------------------------------------------------------------------------|
| Naegleria gruberi | 144 | QKM.....SDMNVAIDV..AL.....GKKS.....SIA.....NL..... |
| Oxytricha trifallax | 274 | LEQHKELELLQKQSN..TLSTLEYFTI.....GRKK..... |
| Arabidopsis thaliana_TAF4 | 184 | MRT.....TAANVAARA..AV.....GGDD.....AFL.....KWQLMAE.ARQK |
| Arabidopsis thaliana_TAF4 | 173 | ERA.....KAANVAVRA..AV.....GGDD.....RFS.....KWKLMAE.ARQR |
| Klebsormidium flaccidum | 185 | RRA.....EAAMSTAMA..AL.....GKSSL.....ARFTANYGKGVAK.....G |
| Micromonas species | 180 | IRA.....TIANDAAARS..AL.....GDAKY.....LKWVSVSSGGKEAD..... |
| Porphyridium purpureum | 137 | VDM.....SSRNESLVV..AVEKHQS..PRDGIDTGTEWSGIDHPEGARESWRAPNHEQSASTSNQDECAG |
| Porphyridium purpureum | 187 | LKQ.....TNATLTN..IL.....GGLK.....KRR..... |
| Porphyridium purpureum | 193 | LKQ.....TNATLTN..IL.....GGLK.....KRR..... |
| Acanthamoeba castellanii | 195 | IRT.....RTANLTALO..AI.....GVR.....PRRA..... |
| Capsaspora owczarzaki | 171 | SQQ.....RRANQALAQ..VL.....PKSN.....R.....PSF..... |
| Nematostella vectensis |  | ..... |
| Nematostella vectensis | 123 | IRK.....REANNTALA..AI.....GPRK.....KRR..... |
| Drosophila melanogaster_Taf4 | 174 | LRQ.....RDANLTALO..AI.....GPRK.....KLLK..... |
| Caenorhabditis elegans_taf-4 | 134 | KRN.....RDANAAAIA..AL.....SNK.....TVK..... |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae | 113 | IRN.....QEANMTALM..AI.....GPRK.....KRR..... |
| Branchiostoma floridae | 113 | IRN.....QEANMTALM..AI.....GPRK.....KRR..... |
| Danio rerio_taf4 |  | ..... |
| Danio rerio_taf4 | 175 | MRQ.....RDANLTALA..AI.....GPRK.....KRR..... |
| Danio rerio_taf4 | 35 | IRQ.....RDANLTALA..AI.....GPRK.....KRR..... |
| Danio rerio_taf4 | 86 | MRQ.....RDANLTALA..AI.....GPRK.....KRR..... |
| Danio rerio_taf4b | 175 | MEH.....RDANLAALA..AL.....GPRK.....KKP..... |
| Latimeria chalumnae | 151 |FI..... |
| Latimeria chalumnae | 175 | IQQ.....RDANLTALA..AI.....GPRK.....KRP..... |
| Latimeria chalumnae | 175 | MRQ.....RDANLTALA..AI.....GPRK.....KRR..... |
| Latimeria chalumnae | 127 | MRQ.....RDANLTALA..AI.....GPRK.....KRR..... |
| Xenopus tropicalis_taf4b | 175 | IQY.....REANLTALA..AI.....GPRK.....KRP..... |
| Xenopus tropicalis_taf4 | 175 | MRQ.....RDANLTALA..AI.....GPRK.....KRR..... |
| Mus musculus_Taf4b | 175 | IQY.....RDANLTALA..AI.....GPRK.....KRP..... |
| Mus musculus_Taf4a | 175 | MRQ.....RDANLTALA..AI.....GPRK.....KRR..... |
| Homo sapiens_TAF4b | 175 | IQH.....RDANLTALA..AI.....GPRK.....KRP..... |
| Homo sapiens_TAF4 | 131 | MRQ.....RDANLTALA..AI.....GPRK.....KRR..... |
| Spizellomyces punctatus | 215 | IKM.....KLANQAVMA..AI.....GTPL.....K.....SWMIAGTGG..... |
| Allomyces macrogynus | 107 |LA.....AM.....G..... |
| Allomyces macrogynus | 23 | ARQ.....RNANTTAFL..AA.....GGAA.....R.....SWMTMGGAGA..... |
| Coemansia reversa | 153 | VQS.....RISNLTALR..AA.....GGVR.....K.....SWMTAAAERPAT..... |
| Mucor circinelloides |  | ..... |
| Mucor circinelloides | 177 | VRN.....KTTNETALM..IA.....GGVM.....K.....SWMLTGSMTGGGGGGG.....S |
| Mortierella elongata | 145 | EKL.....RFANQTALK..FA.....GNRG.....EKRT.....YAWMAGSGGVLRQPRDSD.LIV |
| Mortierella elongata | 202 | ARK.....KVANQTAMG..FA.....GSGS.....RT.....YSWMMGSGGAGGGGGGLG..... |
| Saccharomyces cerevisiae | 162 | TLH.....RASNVTAGL..RA.....GSKK.....Q.....YGWLTS..... |
| Kluyveromyces lactis | 162 | TYQ.....RASNATANL.MIAG.....GNKK.....K.....YSWLTAG..... |
| Neurospora crassa | 177 | SST.....ASANQTLNA..IM.....GGFG.....RKK.....GKSYSWMMNAGAGGGGGGGG..... |
| Schizosaccharomyces pombe | 187 | AQN.....RMTNATASI..MA.....GSALPS.GGKKY.....SWMATDMTP..... |
| Ustilago maydis | 206 | VRK.....RLADSTAMR..NL.....GGST.....K.....YSWLSGG..... |
| consensus>70 |  | ..... |

385 390 395 400 405 410 415 420 425 430 435 440 445 450 455

TAF4 HFD, mafftlinsi (conservation > 70%: yellow - partial; red - complete) - page 4

| | | |
|------------------------------|-----|-----------------------------------------------------------------------|
| Naegleria gruberi | 167 | .SQSNKTSST.....LKKTPSASN.....VTNSTKQNN |
| Oxytricha trifallax | 304 | PNGSGATQQDGSQDEFIRPQDILPHKKTGGASAGGGQGS...SSTGHLKTM |
| Arabidopsis thaliana_TAF4 | 216 | ...SVSEAGKDG.....QKTTSGGGKNSK...DRQDGGRRF...SGTESSC |
| Arabidopsis thaliana_TAF4 | 205 | ...SSPGPRNSK..... |
| Klebsormidium flaccidum | 218 | PAGPSAKPPT..... |
| Micromonas species | 212 | RESQRK.....PSRELTCKQ |
| Porphyridium purpureum | 201 | QHTPKKIGVAQETDNVI.....GTVTERGGDH.....GTTGNDTGRTEV |
| Porphyridium purpureum | 206 | KSAPSAGAPPSLAA.....GGSSSLGAGSVAPAAGSVGGDNGDKPPRLFS DAGSTGAMSDDSDATASV |
| Porphyridium purpureum | 212 | KSAPSAGAPPSLAA.....GGTSPVGAGSVASAVGTVGGYGDGKPPRLSLDAGFTGAISSDDSDATASV |
| Acanthamoeba castellanii | 217 | MQGGTPTAPGGAAG.....GAGRGGAPGLGLPDLRA...PLFNKQMLDQLT..ALQKLKAASQLTPQQ |
| Capsaspora owczarzaki | 193 | LDSARSSNPLGDSG.....DGDEFVPGAD.....GTAQAGANPDP |
| Nematostella vectensis |  | ..... |
| Nematostella vectensis | 144 | LDEALE.ATR.....PS..GQF |
| Drosophila melanogaster_Taf4 | 195 | LDGETV.SSG.....AGSS.....GGGVLS... |
| Caenorhabditis elegans_taf-4 | 155 | .NKWENT..... |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae | 134 | VDSPGP.GSS.....SSFTPGASVQVGA..... |
| Branchiostoma floridae | 134 | VDSPGP.GSS.....SSFTPGASVQ..... |
| Danio rerio_taf4 |  | ..... |
| Danio rerio_taf4 | 196 | LDSPGA.SAG.....AELPAGSS.....GSATGSTSS |
| Danio rerio_taf4 | 56 | PDSPSL.GID.....TE..GSG.....LCASASGGL |
| Danio rerio_taf4 | 107 | VDSPGATTTT.....TE..... |
| Danio rerio_taf4b | 196 | LEAPGL.GAN.....Q |
| Latimeria chalumnae |  | ..... |
| Latimeria chalumnae | 196 | LDSLLEL.GNG.....AE..... |
| Latimeria chalumnae | 196 | LDLPGPTAAG.....GE..GSG.....VSNGAQAGP |
| Latimeria chalumnae | 148 | LDLPGPTAAG.....GE..GSG.....VSNGAQAGP |
| Xenopus tropicalis_taf4b | 196 | LDSLCL.HNGW.....DETIPSGST |
| Xenopus tropicalis_taf4 | 196 | VESPGP.GSG.....SE..SSS.....TSTATASSS |
| Mus musculus_Taf4b | 196 | LES.....G..NE..SFK.....DNPSTSGTS |
| Mus musculus_Taf4a | 196 | VDCTGP.GSG.....AE..GSG.....PGAAPVGGG |
| Homo sapiens_TAF4b | 196 | LES.....G..IE..GLK.....DNLLASGTS |
| Homo sapiens_TAF4 | 196 | VDCPPG.GSG.....AE..GSG.....PGSVVPGSS |
| Spizellomyces punctatus | 244 | GNASNGAGGTSCLKV.....ASSSKRKYDGD.....GTNRSGGLVGTI |
| Allomyces macrogynus |  | ..... |
| Allomyces macrogynus | 52 | .GGPPTSSAAIAAV.....PGAAPGAG.....VSLATAAAK |
| Coemansia reversa | 184 | PDAPESPAPLAHRR.....SHSSQGAA.....SDDDVPTPT |
| Mucor circinelloides |  | ..... |
| Mucor circinelloides | 212 | KEKGSSSSAAAAPI.....SRQNSN.....AVSGAPAAT |
| Mortierella elongata | 188 | LDPSSPSSPS.....SSDFLLGAT |
| Mortierella elongata | 239 | GGAASPSPLAGPP.....IVASTGTG.....STAGSPSAS |
| Saccharomyces cerevisiae | 188 | VNKPTSLGAKSSGK.....VASDITARG |
| Kluyveromyces lactis | 190 | .SKSSSTDLKNQGN.....VSSAVAARG |
| Neurospora crassa | 217 | GGGSGASTPRTSLG.....GDGLSTPAGKG.....GAAGVADNK |
| Schizosaccharomyces pombe | 221 |MTPAVGGGGFGRKK.....DNSNLKPS |
| Ustilago maydis | 233 | SSFPSTFSPGAKK.....AKAEQGAEDATTPGRLPKPKFAPQPSVSNW.....SSAGAADTN |
| consensus>70 |  | ..... |
| | | 460 465 470 475 480 485 490 495 500 505 510 515 520 525 530 |
| Naegleria gruberi | 194 | GQE.....FDD.....DSSQLG |
| Oxytricha trifallax | 352 | DLSMGAHRLHHKKVNLNLN...IY.....SSR.....EIE |
| Arabidopsis thaliana_TAF4 | 254 | GVGIVYRVSSSRFWFAMM...SF.....GFLFAGGR.....RVG |
| Arabidopsis thaliana_TAF4 | 215 |KLSGGT.....QFG |
| Klebsormidium flaccidum | 228 |AAN..... |
| Micromonas species | 227 | NDEKDS.....EIR.....FLK |
| Porphyridium purpureum | 241 | SPT.....NIS |
| Porphyridium purpureum | 269 | HNK.....ITDGEASVGSR.....DAA |
| Porphyridium purpureum | 275 | LSK.....ISDGEASVGSR.....HAA |
| Acanthamoeba castellanii | 276 | AQQLQLLNQIRRMQQFKQLADQL.....AGRKVPMM.....LDPKTI |
| Capsaspora owczarzaki | 229 | NAS.....HMK |
| Nematostella vectensis |  | ..... |
| Nematostella vectensis | 158 |PFD |
| Drosophila melanogaster_Taf4 | 214 | SSG.....SAP.....TTL |
| Caenorhabditis elegans_taf-4 | 161 | .G.....AAT.....TAP |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae | 156 |GSR.....DPV |
| Branchiostoma floridae | 153 |PV |
| Danio rerio_taf4 |  | ..... |
| Danio rerio_taf4 | 222 | SSS.....SVR.....Q.T |
| Danio rerio_taf4 | 79 | NAG.....ASR.....QFT |
| Danio rerio_taf4 |  | ..... |
| Danio rerio_taf4b | 206 | LLG.....SHG.....HFA |
| Latimeria chalumnae |  | ..... |
| Latimeria chalumnae |  | ..... |
| Latimeria chalumnae | 220 | GAA.....TSR.....QYS |
| Latimeria chalumnae | 172 | GAA.....TSR.....QYS |
| Xenopus tropicalis_taf4b | 215 | IFG.....LSK.....SLL |
| Xenopus tropicalis_taf4 | 219 | AGG.....GSR.....QFT |
| Mus musculus_Taf4b | 214 | SLT.....ATK.....PF |
| Mus musculus_Taf4a | 219 | GVG.....TPR.....QFT |
| Homo sapiens_TAF4b | 214 | SLT.....ATK.....QLH |
| Homo sapiens_TAF4 | 219 | GVG.....TPR.....QFT |
| Spizellomyces punctatus | 282 | SSSTRL.....PGTAGG |
| Allomyces macrogynus |  | ..... |
| Allomyces macrogynus | 82 | RAAALV.....AKRRADLLGG.....PRAG |
| Coemansia reversa | 215 | TSR..... |
| Mucor circinelloides |  | ..... |
| Mucor circinelloides | 241 | QND..... |
| Mortierella elongata | 207 | EES.....RFI |
| Mortierella elongata | 269 | GTAANG.....TGGPLKPTLARGSTMLASTTISGALTPGGGGGDGGAAGSGAVGSPSLV |
| Saccharomyces cerevisiae | 211 | ESGLKF.....REA |
| Kluyveromyces lactis | 212 | EMGIKY.....REA |
| Neurospora crassa | 251 | PQQLTS.....ENQKN |
| Schizosaccharomyces pombe | 244 | RDGVL.....PLQ |
| Ustilago maydis | 287 | SAGSTA.....NPVSTGAWGDVAAR.....QAA |
| consensus>70 |  | ..... |
| | | 535 540 545 550 555 560 565 570 575 580 585 590 595 600 605 |

| | | | | |
|------------------------------|-----|----------------------------------------------|--------------------------|-------------------------|
| Naegleria gruberi | 206 | K.....RP.....SSIVITPQ | V.ILYLETEPELLR.....K | |
| Oxytricha trifallax | 378 | K.....TKYDENYQKRVDMKE | EL.IFFMQRDPHLR.....K | |
| Arabidopsis thaliana_TAF4 | 285 | K.....NQGSSLQPK.VVRTISVK | V.VAVLEREPQMS.....K | |
| Arabidopsis thaliana_TAF4 | 224 | KN.....QGLPK.VVRSISVK | DV.IAVVEKEPQMS.....R | |
| Klebsormidium flaccidum | | | | |
| Micromonas species | 239 | R.SMDGRGAR.....ANWTVSLKD | C.....RDVIGDEYK..... | |
| Porphyridium purpureum | 247 | RAGARQRCASPL.....VPGGSLL.KRNRMSIPFSVSELGPI | TMRD.F.LFFMERDPNMR.....S | |
| Porphyridium purpureum | 286 | Q.....PPLLVRATVPAGLGGPL.PLRQTQPQLQMQRDPISIR | D.C.IFLMERDRHMN.....K | |
| Porphyridium purpureum | 292 | Q.....PPKLPVHVAMPAGLGDLL.PLRQAQPQLQMQRDPISIR | D.C.IFLMERDRHMN.....K | |
| Acanthamoeba castellanii | 314 | RLTVA.....TGALQPRSRFDTRVITMK | D.LEFYLLHKDPHTK.....Y | |
| Capsaspora owczarzaki | 235 | R.AQAFDMAP.....YPHTVTIKD | L.LMYMNGDARTK.....R | |
| Nematostella vectensis | 66 | | K.KIMKVMF..... | |
| Nematostella vectensis | | | | |
| Drosophila melanogaster_Taf4 | 223 | R.....P.RIKRVNLR | DM.LFYMEQEREFC.....R | |
| Caenorhabditis elegans_taf-4 | 168 | R.....P.RTVR | | |
| Branchiostoma floridae | | | | |
| Branchiostoma floridae | | | | |
| Branchiostoma floridae | 162 | R.....P.RTKRANLR | DL.IFLLEQEKETC.....K | |
| Branchiostoma floridae | 155 | R.....P.RTKRANLR | DL.IFLLEQEKETC.....K | |
| Danio rerio_taf4 | | | | |
| Danio rerio_taf4 | 230 | R.....Q.RITRVNLR | DL.IFCLEQERTTA.....R | |
| Danio rerio_taf4 | 88 | R.....Q.RITRVNLR | DL.LFCLENEKSTS.....H | |
| Danio rerio_taf4 | 119 | | VQNY.I..... | |
| Danio rerio_taf4b | 215 | S.....R.APVRVTMR | DL.TFYMEQDPTFR.....H | |
| Latimeria chalumnae | 153 | | | |
| Latimeria chalumnae | | | | |
| Latimeria chalumnae | 229 | R.....Q.RITRVNLR | DF.IFCLEQEQNTS.....H | |
| Latimeria chalumnae | 181 | R.....Q.RITRVNLR | DF.IFCLEQEQNTS.....H | |
| Xenopus tropicalis_taf4b | 224 | V.....P.RITRVNLR | DL.IFCMEQERESK.....H | |
| Xenopus tropicalis_taf4 | 228 | R.....Q.RITRVNLR | DL.ILCLESERETS.....H | |
| Mus musculus_Taf4b | 222 | R.....P.RITRICKLR | DL.IFCMEQEREMK.....Y | |
| Mus musculus_Taf4a | 228 | R.....Q.RITRVNLR | DL.IFCLENERETS.....Y | |
| Homo sapiens_TAF4b | 223 | R.....P.RITRICKLR | DL.IFCMEQEREMK.....Y | |
| Homo sapiens_TAF4 | 228 | R.....Q.RITRVNLR | DL.IFCLENERETS.....H | |
| Spizellomyces punctatus | 294 | RRG.....TAAEQ.AMRRVTLR | DA.LFCLEADHAMT.....K | |
| Allomyces macrogynus | | | | |
| Allomyces macrogynus | 102 | K.G.....PAAGVAAAAGAGVP.VPGTAAQA.RHKRLHVR | DV.LLALQGEELHTG.....A | |
| Coemansia reversa | 218 | | PLRATAAFS.APLLVTVR | C.LFSLERERLGSVRV.ARGGGE |
| Mucor circinelloides | | | | |
| Mucor circinelloides | | | | |
| Mortierella elongata | 213 | R.GLCN.....SLGKVNIK | DA.LFCLEHWDWGGK.....GTGL | |
| Mortierella elongata | 323 | R.GAGVGG.SMILPP.....STLGRPTNLR | D.SSRKVNVR | DA.LFCLEDRGGGG.GEGSGQ |
| Saccharomyces cerevisiae | 220 | R.....EEPQIVMR | DL.LFALENRRNSV..... | |
| Kluyveromyces lactis | 221 | R.....EEPQIVMR | DL.LLALENRRVGV..... | |
| Neurospora crassa | 262 | RLGMWRESSE.....QGKNIQLR | DW.LVALEMD.....GI.E | |
| Schizosaccharomyces pombe | 252 | Q.....EKGIIITIR | DA.LAVLEMDREGAGRIFGRGA.K | |
| Ustilago maydis | 310 | K.....EEEEERQARLKVTLR | DA.LFALEYERRAGV.GHGSGE | |
| consensus>70 | | | | |

610 615 620 625 630 635 640 645 650 655 660 665 670 675 680

| | | | |
|------------------------------|-----|------------------------------------------------------------------------------|--|
| Naegleria gruberi | 231 | SRLHLSLYLKLKE..... | |
| Oxytricha trifallax | 407 | SQILYQTMINK..... | |
| Arabidopsis thaliana_TAF4 | 317 | STLMYRLIQ..... | |
| Arabidopsis thaliana_TAF4 | 253 | STLLYRVYNRICSDV..... | |
| Klebsormidium flaccidum | | | |
| Micromonas species | | | |
| Porphyridium purpureum | 300 | SILIHIGYVFLGSL..... | |
| Porphyridium purpureum | 338 | SARLMLMCKLG..... | |
| Porphyridium purpureum | 344 | SARLMRMMCNLERRP..... | |
| Acanthamoeba castellanii | 352 | SKLVWRLEKRRKSAS..... | |
| Capsaspora owczarzaki | 266 | SPLYFKALIRQATVGN..... | |
| Nematostella vectensis | | | |
| Nematostella vectensis | | | |
| Drosophila melanogaster_Taf4 | 247 | SSMLFKTYLK..... | |
| Caenorhabditis elegans_taf-4 | | | |
| Branchiostoma floridae | | | |
| Branchiostoma floridae | | | |
| Branchiostoma floridae | 186 | SNMLYKAYLK..... | |
| Branchiostoma floridae | 179 | SNMLYKAYLK..... | |
| Danio rerio_taf4 | | | |
| Danio rerio_taf4 | 254 | STLLYKALLK..... | |
| Danio rerio_taf4 | 112 | SQLLYRALLK..... | |
| Danio rerio_taf4 | | | |
| Danio rerio_taf4b | 239 | TLVLYRAFLG..... | |
| Latimeria chalumnae | 154 | SILL..... | |
| Latimeria chalumnae | | | |
| Latimeria chalumnae | 253 | SIMLYRALLK..... | |
| Latimeria chalumnae | 205 | SIMLYRALLK..... | |
| Xenopus tropicalis_taf4b | 248 | LSLYRALLK..... | |
| Xenopus tropicalis_taf4 | 252 | SILLYKAFLLK..... | |
| Mus musculus_Taf4b | 246 | SRALYLALLK..... | |
| Mus musculus_Taf4a | 252 | SILLYKAFLLK.....HLEUSKOWSAKOWVMGORIGINALHEADERSAKOWVMGSAKOWVMPEPTIDESCAFFOLD | |
| Homo sapiens_TAF4b | 247 | SRALYLALLK..... | |
| Homo sapiens_TAF4 | 252 | SILLYKAFLLK..... | |
| Spizellomyces punctatus | 324 | SPLVYKWWANVT..... | |
| Allomyces macrogynus | | | |
| Allomyces macrogynus | 149 | GKF..... | |
| Coemansia reversa | 256 | R..... | |
| Mucor circinelloides | | | |
| Mucor circinelloides | | | |
| Mortierella elongata | 243 | RVLIKN..... | |
| Mortierella elongata | 375 | RVL..... | |
| Saccharomyces cerevisiae | 242 | QTIISKGYAKIRD..... | |
| Kluyveromyces lactis | 243 | NNVITKGYARIRD..... | |
| Neurospora crassa | 292 | VRAIQEAYTRL..... | |
| Schizosaccharomyces pombe | 284 | AMMR..... | |
| Ustilago maydis | 345 | ALL..... | |
| consensus>70 | | | |

685 690 695 700 705 710 715 720 725 730 735 740 745 750 755 760

| | | |
|------------------------------|-----|-------------------------------------------------------------------------------|
| Naegleria gruberi | | |
| Oxytricha trifallax | | |
| Arabidopsis thaliana_TAF4 | | |
| Arabidopsis thaliana_TAF4 | | |
| Klebsormidium flaccidum | | |
| Micromonas species | | |
| Porphyridium purpureum | | |
| Porphyridium purpureum | | |
| Porphyridium purpureum | | |
| Acanthamoeba castellanii | | |
| Capsaspora owczarzaki | | |
| Nematostella vectensis | | |
| Nematostella vectensis | | |
| Drosophila melanogaster_Taf4 | | |
| Caenorhabditis elegans_taf-4 | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4b | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Xenopus tropicalis_taf4b | | |
| Xenopus tropicalis_taf4 | | |
| Mus musculus_Taf4b | | |
| Mus musculus_Taf4a | 322 | SKOWALEVSKIISSSTFKDDDDINDVASMAGVNLSEESARILATNAEFIGTQLRSCKDEHFLHSGPLQKRISDICKK |
| Homo sapiens_TAF4b | | |
| Homo sapiens_TAF4 | | |
| Spizellomyces punctatus | | |
| Allomyces macrogynus | | |
| Allomyces macrogynus | | |
| Coemansia reversa | | |
| Mucor circinelloides | | |
| Mucor circinelloides | | |
| Mortierella elongata | | |
| Mortierella elongata | | |
| Saccharomyces cerevisiae | | |
| Kluyveromyces lactis | | |
| Neurospora crassa | | |
| Schizosaccharomyces pombe | | |
| Ustilago maydis | | |
| consensus>70 | | 765 770 775 780 785 790 795 800 805 810 815 820 825 830 835 |

| | | |
|------------------------------|-----|-----------------------------------------------------------------------------|
| Naegleria gruberi | | |
| Oxytricha trifallax | | |
| Arabidopsis thaliana_TAF4 | | |
| Arabidopsis thaliana_TAF4 | | |
| Klebsormidium flaccidum | | |
| Micromonas species | | |
| Porphyridium purpureum | | |
| Porphyridium purpureum | | |
| Porphyridium purpureum | | |
| Acanthamoeba castellanii | | |
| Capsaspora owczarzaki | | |
| Nematostella vectensis | | |
| Nematostella vectensis | | |
| Drosophila melanogaster_Taf4 | | |
| Caenorhabditis elegans_taf-4 | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4b | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Xenopus tropicalis_taf4b | | |
| Xenopus tropicalis_taf4 | | |
| Mus musculus_Taf4b | | |
| Mus musculus_Taf4a | 398 | FGLDEPSSEMSNIIISHATQERLKTLEKALIAQHRMEVYKNSDRYEMTDDIKSKLRFEEQLDALERKRHDEQERE |
| Homo sapiens_TAF4b | | |
| Homo sapiens_TAF4 | | |
| Spizellomyces punctatus | | |
| Allomyces macrogynus | | |
| Allomyces macrogynus | | |
| Coemansia reversa | | |
| Mucor circinelloides | | |
| Mucor circinelloides | | |
| Mortierella elongata | | |
| Mortierella elongata | | |
| Saccharomyces cerevisiae | | |
| Kluyveromyces lactis | | |
| Neurospora crassa | | |
| Schizosaccharomyces pombe | | |
| Ustilago maydis | | |
| consensus>70 | | 840 845 850 855 860 865 870 875 880 885 890 895 900 905 910 |

| | | |
|------------------------------|-----|------------------------------------------------------------------------------|
| Naegleria gruberi | | |
| Oxytricha trifallax | | |
| Arabidopsis thaliana_TAF4 | | |
| Arabidopsis thaliana_TAF4 | | |
| Klebsormidium flaccidum | | |
| Micromonas species | | |
| Porphyridium purpureum | | |
| Porphyridium purpureum | | |
| Porphyridium purpureum | | |
| Acanthamoeba castellanii | | |
| Capsaspora owczarzaki | | |
| Nematostella vectensis | | |
| Nematostella vectensis | | |
| Drosophila melanogaster_Taf4 | | |
| Caenorhabditis elegans_taf-4 | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4b | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Xenopus tropicalis_taf4b | | |
| Xenopus tropicalis_taf4 | | |
| Mus musculus_Taf4b | | |
| Mus musculus_Taf4a | 474 | MLLRAAKSRSRQEDPEQLRLKQKAKEMQQMEMEQMRKRDANMTALLAIGPRKKRKIDSPIPGSSSSFSQGGGNNST |
| Homo sapiens_TAF4b | | |
| Homo sapiens_TAF4 | | |
| Spizellomyces punctatus | | |
| Allomyces macrogynus | | |
| Allomyces macrogynus | | |
| Coemansia reversa | | |
| Mucor circinelloides | | |
| Mucor circinelloides | | |
| Mortierella elongata | | |
| Mortierella elongata | | |
| Saccharomyces cerevisiae | | |
| Kluyveromyces lactis | | |
| Neurospora crassa | | |
| Schizosaccharomyces pombe | | |
| Ustilago maydis | | |
| consensus>70 | | 915 920 925 930 935 940 945 950 955 960 965 970 975 980 985 |

| | | |
|------------------------------|-----|---------------------------------------------------|
| Naegleria gruberi | | |
| Oxytricha trifallax | | |
| Arabidopsis thaliana_TAF4 | | |
| Arabidopsis thaliana_TAF4 | | |
| Klebsormidium flaccidum | | |
| Micromonas species | | |
| Porphyridium purpureum | | |
| Porphyridium purpureum | | |
| Porphyridium purpureum | | |
| Acanthamoeba castellanii | | |
| Capsaspora owczarzaki | | |
| Nematostella vectensis | | |
| Nematostella vectensis | | |
| Drosophila melanogaster_Taf4 | | |
| Caenorhabditis elegans_taf-4 | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Branchiostoma floridae | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4 | | |
| Danio rerio_taf4b | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Latimeria chalumnae | | |
| Xenopus tropicalis_taf4b | | |
| Xenopus tropicalis_taf4 | | |
| Mus musculus_Taf4b | | |
| Mus musculus_Taf4a | 550 | VNSSSSSSSLGNRPQIKRVKRVNLRDLVFLLEQEKETKKSTLLYKAFLK |
| Homo sapiens_TAF4b | | |
| Homo sapiens_TAF4 | | |
| Spizellomyces punctatus | | |
| Allomyces macrogynus | | |
| Allomyces macrogynus | | |
| Coemansia reversa | | |
| Mucor circinelloides | | |
| Mucor circinelloides | | |
| Mortierella elongata | | |
| Mortierella elongata | | |
| Saccharomyces cerevisiae | | |
| Kluyveromyces lactis | | |
| Neurospora crassa | | |
| Schizosaccharomyces pombe | | |
| Ustilago maydis | | |
| consensus>70 | | 990 995 1000 1005 1010 1015 1020 1025 1030 1035 |

TAF4 NHR1, mafftlinsi (conservation > 70%: yellow - partial; red - complete)

Supplemental Fig. S24

| | | | | | | | | | | | | | |
|---------------------------------|---|----------|--------|--------|-------|----------------|---------|---------------|--------|--------|-------|----------|--------|
| Latimeria chalumnae | 1 | EIMENV | VKKCKN | FLSTLI | KLAS | ..SGKQSTETAAN | VKELVQ | NLDGKMEAE | EDFTSR | LYRELN | SS | ..PQPYLV |P |
| Gallus gallus | 1 | ETMENV | VKKCKN | FLSTLI | KLAS | ..SGKQSSSETAAN | VKELVQ | NLDGKIEAE | EDFTSR | LYRELN | SS | ..PQPYLV |P |
| Pelodiscus sinensis | 1 | ETMENV | VKKCKN | FLSTLI | KLAS | ..SGKQSSSETAAN | VKELVQ | NLDGKIEAE | EDFTSR | LYRELN | SS | ..PQPYLV |P |
| Xenopus tropicalis_taf4 | 1 | ETMENV | VKKCKN | FLSTLI | KLAS | ..SGKQSSSETAAN | VKELVH | NLDGKIEAE | EDFTSR | LYRELN | SS | ..PQPYLV |P |
| Homo sapiens_TAF4 | 1 | ETMENV | VKKCKN | FLSTLI | KLAS | ..SGKQSTETAAN | VKELVQ | NLDGKIEAE | EDFTSR | LYRELN | SS | ..PQPYLV |P |
| Mus musculus_Taf4a | 1 | ETMENV | VKKCKS | FLSTLI | KLAS | ..SGKQSTETAAN | VKDLVQ | NLDGKIEAE | EDFTSR | LYRELN | SS | ..PQPYLV |P |
| Danio rerio_taf4 | 1 | ETMENV | VKKCRN | FLSTLI | KLAT | ..SGKQSSSETVAN | VKELVK | NLEGGKIEAE | EDFTSR | LYRELN | SS | ..PQPYLV |P |
| Takifugu rubripes | 1 | ETLENV | VKKCRS | FLSTLI | KLTS | ..NGKQSSSETAAN | VKELVK | NLEAKIEAE | EDFTSR | LYRELN | SS | ..PQPYLV |P |
| Latimeria chalumnae | 1 | ETLENV | VKKCKN | FFATLI | KLAS | ..GGTQSPPEMAKN | VTDLVK | NLDKIEAE | EFTNKL | LYTELK | SS | ..PQPYLV |P |
| Homo sapiens_TAF4b | 1 | TMLENV | VKKCKN | FLAMLI | KLAC | ..SGSQSPPEMGQN | VKKLVE | QLDAKIEAE | EFTTRK | LYVELK | SS | ..PQPHLV |P |
| Mus musculus_Taf4b | 1 | TVLENV | VKKCKN | FLSMLI | KLAC | ..SGSQSPPEMGQN | VKKRLVE | QLDAEIEAE | EFTTRK | LYIELK | SS | ..PQPHLV |P |
| Gallus gallus | 1 | EMLENV | VKKCKN | FLATLI | KLASG | ..SGPQATEMGQN | VKNLVQ | NLEAKIEPEE | EFTTKL | LYVELK | SS | ..PQPYLV |P |
| Pelodiscus sinensis | 1 | ETLENV | VKKCKN | FLATLI | KLAS | ..SGPQAPPEMGQN | VKNLVQ | NLEAKIEPEE | EFTTKL | LYVELK | SS | ..PQPYLV |P |
| Xenopus tropicalis_taf4b | 1 | EILDNV | VKKCKN | FLATLI | KLAS | ..SGPQSPPTMGQN | VKNLVK | NLSDIEPEE | EFTAKL | LYKELK | SS | ..PQPYLV |P |
| Danio rerio_taf4b | 1 | ETLENV | VKKCKN | FLVTLM | KLAS | ..SGTRSANMAQ | NVRALV | KGLDGGKLEAE | EFTTEK | LYMELK | SS | ..PQPYLV |P |
| Takifugu rubripes | 1 | ETIENV | VKKCKN | FLSTLM | KLAS | ..TGKQSPETAAL | VRELVK | DLGGKLEAE | EFTTRK | LYIELK | SS | ..PQPYLV |P |
| Takifugu rubripes | 1 | ..TLESV | VKKCKN | FLVTLM | KLAS | ..SDSQASMASN | VNRGLV | RALLLEGGKIEAE | QFTERL | LYQELK | SS | ..PQPCLV |P |
| Latimeria chalumnae | 1 | EMQENV | VKKCKN | FLATLI | KLAS | ..HNPPSPETSRN | VKSLVQ | NLDLAKIEPEE | EFTCR | LYTELK | SS | ..PQPYLV |P |
| Danio rerio_taf4 | 1 | EMQENV | VKKCKN | FLATLI | KLAS | ..HNPPSPETSRN | VKSLVQ | NLDLAKIEPEE | EFTNRL | LYTELK | SS | ..PQPYLV |P |
| Latimeria chalumnae | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Strongylocentrotus purpuratus | 1 | SAMDNV | VKKCRN | FLTTLI | KLAS | ..NANQPPETVQ | NVKMLV | QLDAKIEPEE | EFTLKL | LYVELK | SS | ..PQPYLV |P |
| Saccoglossus kowalevskii | 1 | SAMENV | VKKCRN | FLTTLI | KLAS | ..NQPAETIRN | VKDLVQ | NLSRS | ..... | ..... | ..... | ..... | ..... |
| Ciona intestinalis | 1 | DDIVNV | VKKCRN | FLTTLI | KLAS | ..TGGQLQETVRN | VKALVQ | NLIDDKICPEE | EFTKRL | LYVELK | SS | ..PQPYLV |P |
| Saccoglossus kowalevskii | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Drosophila melanogaster_Taf4-PE | 1 | ..QGNTK | EKCRK | FLANLI | ELST | ..REPKPV | EKNV | VRTLIQ | ELVNA | NVEPEE | ..... | ..... | ..... |
| Anopheles gambiae str. PEST | 1 | ..LDNTK | EKCSK | FLTNLI | ELSK | ..REPAKVE | QNV | VRTLIQ | ELVDA | NVDPAE | ..... | ..... | ..... |
| Brugia malayi | 1 | ..QASNV | SKCAR | FKTLIH | LSQQ | PDQQQ | QQTAV | VTELVK | LVLY | YGSMP | PEE | ..... | ..... |
| Caenorhabditis elegans | 1 | SDDKNV | TKCVR | FLKTLI | HLNS | ..DDEMPDKA | ARV | KELIRG | VIY | LETTAE | ..... | ..... | ..... |
| Nematostella vectensis | 1 | ..IKEHA | AKLKN | FFNNLI | RLAS | ..EKSPEV | GPAV | KDLIQ | KVME | GKLSE | ..... | ..... | ..... |
| Schistosoma mansoni | 1 | ..LGSST | TKLVG | FFNQLE | LSK | ..NVSVTH | SSV | ATLIQ | ALV | NGELD | ..... | ..... | ..... |
| Saccoglossus kowalevskii | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Pelodiscus sinensis | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Takifugu rubripes | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| consensus>70 | | ..e.v.kc | ..fl | ..li | ..l | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 P

| | | | | | | | | | |
|---------------------------------|----|--------|--------|--------|---------|--------|-------|----------|-------|
| Latimeria chalumnae | 69 | FLKRSI | PALR | QLTPDS | ..AAFIQ | QS | QLQP | PTTQA | ..... |
| Gallus gallus | 69 | FLKRSI | PALR | QLTPDS | ..AAFIQ | QS | QQQP | PTTQA | ..... |
| Pelodiscus sinensis | 69 | FLKRSI | PALR | QLTPDS | ..AAFIQ | QS | QQQP | PTTQA | ..... |
| Xenopus tropicalis_taf4 | 69 | FLKRSI | PALR | QLTPDA | ..AAFIQ | QS | QQQP | PPTQA | ..... |
| Homo sapiens_TAF4 | 69 | FLKRSI | PALR | QLTPDS | ..AAFIQ | QS | QQQP | PPPTS | ..... |
| Mus musculus_Taf4a | 69 | FLKRSI | PALR | QLTPDS | ..AAFIQ | QS | QQQP | PPASQ | ..... |
| Danio rerio_taf4 | 69 | FLKRSI | PALR | QLTPDS | ..TAFIQ | QS | QALH | SPT | ..... |
| Takifugu rubripes | 69 | FLKRSI | PALR | QMTDPS | ..EAFIQ | QS | LLPQ | TNTPA | ..... |
| Latimeria chalumnae | 69 | FLKRSI | PALR | QLMPNA | ..QTFIQ | QC | IQQP | PRSQP | ..... |
| Homo sapiens_TAF4b | 69 | FLKKS | VVALR | QLLPNS | ..QSFIQ | QC | VQQT | SSDMV | ..... |
| Mus musculus_Taf4b | 69 | FLKKS | VVALR | QLLPNS | ..QSFIE | NC | VKEV | SGDV | ..... |
| Gallus gallus | 70 | FLKKS | MLALR | QLMPNA | ..QSFIQ | QC | MQQP | PAPTQE | ..... |
| Pelodiscus sinensis | 69 | FLKKS | MLALR | QLMPNA | ..QSFIQ | QC | VQQQ | PAIQA | ..... |
| Xenopus tropicalis_taf4b | 69 | FLKKS | SLPALR | QLMPNS | ..QEFIM | QC | GQQT | TPQPPA | ..... |
| Danio rerio_taf4b | 69 | FLKRSI | PAVR | QLTPNS | ..QLFIQ | QC | DHL | KPS | ..... |
| Takifugu rubripes | 69 | FLMV | SATALT | PAQRN | ..... | ..... | ..... | ..... | ..... |
| Takifugu rubripes | 68 | FLKKS | SLPAVR | HLLTVP | ..HLFIQ | QA | SAFT | PTT | ..... |
| Latimeria chalumnae | 69 | FLKKS | SLPALR | QTLTNS | ..QSFMQ | VQ | Q | QNSQ | ..... |
| Danio rerio_taf4 | 69 | FLKKS | SLPALR | LTLLNS | ..QSQ | SLT | QLSQ | TSATA | ..... |
| Latimeria chalumnae | 16 | FLKKS | SLPALR | QTLTNS | ..QSFMQ | GQ | HQP | QPPQ | ..... |
| Strongylocentrotus purpuratus | 69 | FLKRS | LPLLR | QTLQ | RG | ..TSGS | NI | ..... | ..... |
| Saccoglossus kowalevskii | 42 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ciona intestinalis | 69 | FLKKS | SLPLLR | LTMMQ | ..NQGG | AS | ..... | ..... | ..... |
| Saccoglossus kowalevskii | 2 | SLIR | SLPLLR | QTLHKS | ..PIQ | GL | ..... | ..... | ..... |
| Drosophila melanogaster_Taf4-PE | 66 | FLKKS | SLPLLR | QALYTK | ..ELVIE | G | IKPP | PQHVLG | ..... |
| Anopheles gambiae str. PEST | 66 | FLKAQ | IRPVA | PTIVSQ | ..NSM | VG | QT | IRMLTSQS | ..... |
| Brugia malayi | 70 | FLQKT | LIPALR | AALQKG | ..EVIIE | G | IDAT | ASQ | ..... |
| Caenorhabditis elegans | 70 | FLQNT | LIPALR | NAVRNG | ..TAS | VE | GVN | PPPGYVFN | ..... |
| Nematostella vectensis | 66 | FLKKA | LPLLR | HQAQLQ | ..ALP | QQ | QP | LQITTVGG | ..... |
| Schistosoma mansoni | 66 | FIKDN | IDLRL | RDLANG | ..VCRLP | NI | Q | PPP | ..... |
| Saccoglossus kowalevskii | 24 | LIAQH | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Pelodiscus sinensis | 30 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Takifugu rubripes | 65 | FHQ | TLAQM | KASQ | ..SAIT | ..... | ..... | ..... | ..... |
| consensus>70 | | flk | sl | ..lr | ..... | ..... | ..... | ..... | ..... |

80 85 90 95 100 105 110 P

TAF4 RST, maftflinsi (conservation > 70%: yellow - partial; red - complete)

Supplemental Fig. S25

| | | |
|-----------------------------------|---|-------------------------------------------------------------------------------------|
| Oryza sativa japonica | 1 | .AQDARKRGYQPSIPFNMLIPIIQAHLDRDKDMQLQTVWAKLRRNEVHKDDFLRVIRNIVGDQMLKQAAHKVFAQMQAQ |
| Aquilegia coerulea Goldsmith | 1 | .TPTGDSENRRNKQVSFATLLPVI VPH.LDKDRAMQLQTLYSKLRKNEIHKDGFRLRHLRSIVGDQMLRQAVHKIQMQGQAK |
| Aquilegia coerulea Goldsmith | 1 | .SPAADSENRRNKQVSFATLLPVI VPH.LDKDRAMQLQTLYSKLRKNEIHKDGFRLRHLRSIVGDQMLRQAVHKIQMQGQAK |
| Oryza sativa japonica | 1 | QTNAPTGVGKPPVTFHMLIPI LRRH.LDKDKDMQVQSI FTKLRKNEVSKEHELKVVRTIVGDKLLQAAAQYQAQAAG |
| Arabidopsis thaliana_TAF4 | 1 | .MNVNPIINRNPKQVFFAALLPTLMNQ.LDKDRALQLRTLYARLKKNEIPKEGFRHMKDIVGDQMLRMAVSKIQVNYNQ |
| Amborella trichopoda | 1 | .ASMRQFKSPSSIPFGLLMPI LCSQ.LDKDRAMQLMTAFNRLLKKAIEINKGDFMRLIKGIVGEQTLKQAAQQLQKHTQA |
| Physcomitrella patens ssp. patens | 1 |EPDK.....FVVVAFQQNEITREDFVGRARIVGDQVLVQTI RQMHKQHPQG |
| Aquilegia coerulea Goldsmith | 1 | QHISTTEQFSSAIRLSILLQTVIPH.LDKSQLRQLQLLVLKHQRREIHRDKFLMCFRLLVGRQFLFRQIQELQKQTQPS |
| Arabidopsis thaliana_TAF4 | 1 |PVNHNLRRLARVTDLLRTVVDH..QPGKKTCLNLHYKLRKELTMEEFMRQLRDLVGDQIIRSVISQLPQLKPGN |
| Oryza sativa japonica | 1 | FAASHP.KGPQRTISMKDVICVLERE.PQMTKSRLIYRLYERLPGDSTRD..... |
| Aquilegia coerulea Goldsmith | 1 | ...IMPHTKVVRTISVKDVLAVLERE.PQMSKSTLVYRLYV.MCADG..... |
| Aquilegia coerulea Goldsmith | 1 | ...VMPHTKVVRSISVKDVLAVLERE.PQMSKSTLVYRLYVRMCSDGQTAE..... |
| Arabidopsis thaliana_TAF4 | 1 | KNQGLP..KVVRISVKDVIAVVEKE.PQMSRSTLLYRVYNRICSDV..... |
| Amborella trichopoda | 1 | ...IHP.LKIMRRISVKDVIALERE.PQMSKSTLMYRLYERMDSMDSNTPEK..... |
| Aquilegia coerulea Goldsmith | 1 |KPVRRHLSARDVIAFLERE.PQMSKSALLYRLYEDVHTK..... |
| Physcomitrella patens ssp. patens | 1 | .IGAPGGRQPRISMKDVIALLERE.PQMSKSTFLYRLYERDRKAESSRI..... |
| Oryza sativa japonica | 1 | ...RSSHVKVTRITVKDVIAALERE.PQMLKSSLLFQLYGRSPAESSAK..... |
| Aquilegia coerulea Goldsmith | 1 |M.PTRGSCIQMEFIQHKYTDNHQEKVGFYAK.....EQWLQL..... |
| Aquilegia coerulea Goldsmith | 1 |KQEVVIQSQEQHIPQISASS.ISAAFNSSGKNNQ.....GNPTA |
| consensus>70 | |i.....q.....y.....n..... |

1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

| | | |
|-----------------------------------|----|-------|
| Oryza sativa japonica | 79 | AQR.. |
| Aquilegia coerulea Goldsmith | 79 | AQAA. |
| Aquilegia coerulea Goldsmith | 79 | AQAP. |
| Oryza sativa japonica | 80 | QRNP. |
| Arabidopsis thaliana_TAF4 | 79 | GKIGI |
| Amborella trichopoda | 78 | IRNSA |
| Physcomitrella patens ssp. patens | 48 | GPSP. |
| Aquilegia coerulea Goldsmith | 80 | TAKT. |
| Arabidopsis thaliana_TAF4 | 74 | MGIK. |
| Oryza sativa japonica |  | ..... |
| Aquilegia coerulea Goldsmith |  | ..... |
| Aquilegia coerulea Goldsmith |  | ..... |
| Arabidopsis thaliana_TAF4 |  | ..... |
| Amborella trichopoda |  | ..... |
| Aquilegia coerulea Goldsmith |  | ..... |
| Physcomitrella patens ssp. patens |  | ..... |
| Oryza sativa japonica |  | ..... |
| Aquilegia coerulea Goldsmith |  | ..... |
| Aquilegia coerulea Goldsmith | 38 | TGTN. |
| consensus>70 |  | ..... |

| | | |
|---------------------------|---|-------------------------------------------------------------------------|
| Trichomonas vaginalis | 1 |IKNQNMNNIPNEIPKYYSDLKMW.VN.SLS..N...ISKPE.VFSLLYA.FFYNSIV |
| Trichomonas vaginalis | 1 |AL.....REMIKNEDVSKLPEQYDAVKNW.II.TSFPPE...SIQYRE.LYKIL.YA.FFFHSII |
| Trichomonas vaginalis | 1 |MN.E.....NQFS.M.P.FFVEEYL |
| Trichomonas vaginalis | 1 |SLRFLDSSRTPHKIDYAYNYFTQNI.VL.NSP..P...AYQRE.YKQLL.F.PLFINLAQ |
| Trichomonas vaginalis | 1 |ISSPEPKRIMEALEIFLQK.VA.ECS..A...FVQKD.LNQFI.F.PLFIFHAS |
| Trichomonas vaginalis | 1 |NPSPNALTESKKYKLLDF.VN...VH...KDKPN.LQQLL.V.PVFCVSVM |
| Trichomonas vaginalis | 1 |F.MN...KN...KGLTA.LRSVL.Y.PLFCQLVI |
| Trichomonas vaginalis | 1 |RD.....IN...FD.....IVQHL |
| Trichomonas vaginalis | 1 |DSFYEMDPG.....ENKYQKRNEI.IH.TKI..K...LMKQE.LSKVP.Y.PLWVTNFE |
| Naegleria gruberi | 1 |VN.....VKITI..... |
| Naegleria gruberi | 1 | M.....LSEAPSGKGFQAYQSLTDW.VF.SSL..E...IYKNE.LIQVL.Y.PVFVHCYL |
| Naegleria gruberi | 1 |IPNS.....VDLITCFIQLLKKY.TD.TEL..N...LYMKE.LKRIL.R.PNGIFI.. |
| Naegleria gruberi | 1 | L.....IE.NSV..E..... |
| Blastocystis hominis | 1 |NTSGVDSSEILCREFERLWNF.ID.HSL..E...CYTAE.LFDF.F.S.TALEKSIL |
| Blastocystis hominis | 1 | A.....LR...E...YCRPDRLEKLL.Y.FIYKQEYL |
| Bigelowiella natans | 1 |IINPE.....RREESSPSHYVEAYRKLQAW.IE.TSI..D...IYRYE.MQKIL.W.PLLVHVFL |
| Oxytricha trifallax | 1 |SMQAV.....FNGDSPDHYTESFKLLKKY.IE.QSL..D...QYKED.LQ.....IVQHL |
| Oxytricha trifallax | 1 |QSL..D...QYKED.LQ..... |
| Arabidopsis thaliana | 1 |KLIRSF.....SQQEDDPTRYREGYSKLRSW.AY.NSL..D...LYKHE.LLRVM.Y.PVFIHCYM |
| Klebsormidium flaccidum | 1 |NHVYLY.....VKGNSPSPRYGESYSKLQAW.VH.DSL..D...LYKNE.LSRIL.Y.PVFIHCFL |
| Klebsormidium flaccidum | 1 |NVKII.EEL...IRLRHE.LATLLGY.PTHAAAYVL |
| Micromonas species | 1 |HILYY.....NEEDADPNLSLVQGYRLLRDW.VN.HSL..D...MYKPE.LMRIL.W.PMFVYCHL |
| Cyanophora paradoxa | 1 |QILSF.....NNMNDNPARYQQSYGEVREW.IH.QSL..E...IYKGE.LLAIL.Y.PFIHACFL |
| Porphyridium purpureum | 1 |QR.....SANAAAEALDPQVIEHAYFVLQKW.VD.SSL..E...LYKGE.LHSVL.Y.PMLVHCFL |
| Acanthamoeba castellanii | 1 |EAKQALEHDYEQKMDHLAMLNEC.LA.SQP..D...ATYPE.LQRVL.F.PFAHCYF |
| Acanthamoeba castellanii | 1 |LISSE.....GTIDRSPERYDEAYIALRDW.IY.ASL..D...RYKFE.LMGVL.Y.PVFVHLYL |
| Capsaspora owczarzaki | 1 |IQLY.....PAAETTTTPQYFEMYDQLVRW.AH.QSL..D...LYKSE.LKIVL.Y.PLFVHCYL |
| Nematostella vectensis | 1 |ILSLSVNHLDSSSTFDEQFGNLKSF.IL.DVN..P...AYRSE.LAKLL.F.PMFAVCYL |
| Nematostella vectensis | 1 |NSEADPTRYEDYYSLSQAF.VE.KSL..D...LYKPE.LAMIL.Y.PLFVHCYL |
| Drosophila melanogaster | 1 |AKF.....IDDDSFDAQHYEQAYKELRTF.VE.DSL..D...IYKHE.LSMVL.Y.PILVQIYF |
| Drosophila melanogaster | 1 |TFSNV.....QVITNNQHTVDQQFGRFSQF.VE.AQA..E...PLRLE.MKRFY.G.PMLCHFYL |
| Drosophila melanogaster | 1 |LVIKEDSVFADYEFVAVKKLIK.IQ.STP..E...HYKYE.YIILL.Y.PLLVLTYL |
| Drosophila melanogaster | 1 | A.....RQL..... |
| Caenorhabditis elegans | 1 | HQ..... |
| Caenorhabditis elegans | 1 |NGLPPEEAISVEFDTFVQH.AN.DCT..D...VVQAE.FSQLL.F.PIFAHSYI |
| Branchiostoma floridae | 1 | A.....MR.....LSDLYGS..... |
| Branchiostoma floridae | 1 |SVLSAY.....ESEGDLYRYCEYSSLSSE.IE.SSL..D...AHKHE.LGCLL.Y.PMFI.... |
| Branchiostoma floridae | 1 | MFI.....AKCVC.....FARYCEYSSLSSE.IE.SSL..D...AHKHE.LGCLL.Y.PVFIHMYL |
| Branchiostoma floridae | 1 |SVLSAY.....ESEGDLYRYCEYSSLSSE.IE.SSL..D...AHKHE.LGCLL.Y.PVFIHMYL |
| Branchiostoma floridae | 1 |SFTFSSCDPDTLYEDDQYSGLKVL.ID.DAP..Q...AHQSE.LTVLL.Y.PMFVHLHL |
| Danio rerio | 1 |ANVVSAAPCQADPQYENQYSRLRSF.LQ.EAE..G...PLVKE.ASSVL.F.PFLFYLHL |
| Danio rerio | 1 |SVVLSAY.....SQQDPSLYKYVYSDLKKF.IE.SVL..D...CHRAE.LSQLF.Y.PLFVHMYL |
| Xenopus tropicalis | 1 |AVSSVPCSPDAHQYEVQFARLRNF.LS.DAD..S...PHSQE.VTTL.L.Y.PLFVYLHL |
| Xenopus tropicalis | 1 |SAVLSAY.....TQQGDPALYEEYYSGLKRF.IE.SVL..D...CHRAE.LSQLF.Y.PLFVHMYL |
| Mus musculus_Taf5l | 1 |NAVSAAPCAEQPQYEVQFGRLRNF.LT.DSD..S...QYSRE.VMPLL.Y.PLFVYLHL |
| Mus musculus_Taf5 | 1 |SAVLSAY.....NQQGDPTMYEYYSGLKHF.IE.CSL..D...CHRAE.LSQLF.Y.PLFVHMYL |
| Homo sapiens_TAF5 | 1 |SAVLSAY.....NQQGDPTMYEYYSGLKHF.IE.CSL..D...CHRAE.LSQLF.Y.PLFVHMYL |
| Homo sapiens_TAF5L | 1 |NIVSAAPCAEQPQYEVQFGRLRNF.LT.DSD..S...QHSHE.VMPLL.Y.PLFVYLHL |
| Fonticula alba | 1 |YDPQEAAMNDRHLHLDAVNHRLRW.IG.VSL..D...AYRSE.LKKFL.F.PLFVYLHI |
| Fonticula alba | 1 |KPG..... |
| Spizellomyces punctatus | 1 |K.....NRNCTECLRW.CT.....DNR.SSLEKI.QSTLE.F.NIRLQEI |
| Spizellomyces punctatus | 1 |ILFY.....NEAEASNPNAYERGYRRLRW.VD.DSI..D...KYKVE.LRGIL.F.PLFVHAYL |
| Allomyces macrogynus | 1 |ARFSADNFSAAYDSSYSKLRW.IE.ESL..D...VFKTE.LKDIL.F.PLFHCHYL |
| Allomyces macrogynus | 1 |ARYSADNFSAAYDSSYSKLRW.IE.ESL..D...VFKTE.LKDIL.F.PLFHCHYL |
| Coemansia reversa | 1 |DRICSS.....AYLKD.KKHIL.Y.NVYKQY |
| Coemansia reversa | 1 |ILFY.....NEAEQGNPDAYRQSYRELRW.ID.SSL..D...AYKHE.LYAAS.Y.PFVHMYL |
| Mucor circinelloides | 1 |GGDLDPFLEYRSLREW.IH.NAL..D...LYKND.LSALL.Y.PSFVHTFL |
| Mucor circinelloides | 1 | EKPELL.....LKLKFSFRTYRSAMPQIKDIKQF.LEIARR.KDAQSARIKKN.ADSVK.F.KVRCRSL |
| Mucor circinelloides | 1 | VHCRLIHI.....STQQPQIKDIKQF.LEIARR.KDAQSARIKKN.ADSVK.F.KVRCRSL |
| Mucor circinelloides | 1 |H.EQS.....DQASGGDPDVIDISYKSLREW.IE.NSL..D...WYKPE.LRSVL.F.PFVHMYL |
| Mortierella elongata | 1 |QPTH.....DKNEMGDPDAYDQAYSSLRW.IE.NSL..D...LYKPE.LRSVL.F.PLFHMYL |
| Mortierella elongata | 1 |WSLNGEKL.RG.....FRSNF.N.AHIHDSN |
| Saccharomyces cerevisiae | 1 |SSGRLEGLNAPENYIRAYSMLKNW.VD.SSL..E...IYKPE.LSYM.Y.PFIYVFL |
| Kluyveromyces lactis | 1 |GQLIKPQVTPHYFRAYSMLKNW.ID.SSL..E...LYKPE.LSRIM.Y.PFIYVFL |
| Kluyveromyces lactis | 1 |STL.D.PNTSGIYI |
| Kluyveromyces lactis | 1 |II.RDLA..D..... |
| Neurospora crassa | 1 |DGRPAQRNEENGPRKYLKAFILLRDW.IE.NNL..D...IYKFE.LRLL.W.PFVYSYI |
| Schizosaccharomyces pombe | 1 |SVEEKLSIEETPDAYTHTYILRDW.VD.SSL..E...LYKAE.LRHL.F.PFVHMYL |
| Schizosaccharomyces pombe | 1 |EQQDWHIGASETYVQVYILLRDW.ID.GTL..D...LYKPK.LQKVL.Y.PFVHMYL |
| Ustilago maydis | 1 |AAATQALLDPTDRARGFAMLSW.CH.GSL..D...IYQPE.LLPL.L.PLFVHMYL |
| consensus>70 | |e.....p..... |

1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

TAF5 NTD2, mafftlinsi (conservation > 70%: yellow - partial; red - complete) - page 2

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|---------------------------|----|------------------------------------------------------------------------|
| Trichomonas vaginalis | 49 | ..VMMLS.QTKR.....SI.....IKSFINDYSTDFVKD.....FAEEISSLT.....KLV..... |
| Trichomonas vaginalis | 53 | ..IMSER.GVVK.....QV.....VKFMNRNTGDHHR.....HDQ..SKLKK.....AVA..... |
| Trichomonas vaginalis | 17 | ..LL.KK.QQTK.....IN.....KHLFND..... |
| Trichomonas vaginalis | 51 | ..QLFLS.QDYQ.....AP.....LDFIEKYRYEQPPQ.....COEKIQELIN..... |
| Trichomonas vaginalis | 45 | ..SLIIR.GYEF.....YF.....SNFINSYKTNLTHY.....QNEILQN.....LIENP.. |
| Trichomonas vaginalis | 43 | ..ALKEK.GNVD.....EL.....NAFVEDFKDQIPNS.....RQFAVNRFLKD..... |
| Trichomonas vaginalis | 25 | ..YFRRY.EETD.....KC.....KEFVEKYLSTIPQE.....YLQEVTFQVEN..... |
| Trichomonas vaginalis | 12 | ..DFFQQ.PKSS.....SA.....TLLRQFQVKKAAAM.....HQRALESK..... |
| Trichomonas vaginalis | 45 | ..EFSK.LVNQ.....AA..... |
| Naegleria gruberi | 1 | ..GSQFGVKG.....NA.....NFQKEVFEHFLEYKKG.....ANNDLKKLN.....KVTSRV |
| Naegleria gruberi | 9 | ..... |
| Naegleria gruberi | 46 | ..ELVSK.NHSE.....EA.....RKFNLKYKTQHSFH.....HYDDILTLO.....SLQTPFI |
| Naegleria gruberi | 42 | ..LREH.DVDNEHMESMVHVA.....HNIFNALTGLTFED.....NEKEFRHFR.....S..... |
| Naegleria gruberi | 8 |NSNN.....AS.....E.....NLNIEKFT.....PHMERQT |
| Blastocystis hominis | 47 | ..YLAKE.DRRE.....DA.....YRLFKKFQSLFYLP.....HEGRYEIV.....NLLSSDK |
| Blastocystis hominis | 25 | ..EFISR.NENQ.....KG.....LHFLFKYIKPLESVCE.SLHAGEFKELC.....YLLSLKS |
| Bigelowiella natans | 51 | ..DMVQK.NFIH.....QA.....QKLMEANIRVFKKK.....HVQEITKLO.....QISSQAD |
| Oxytricha trifallax | 38 |SN.NFID.....QA.....RDF..... |
| Oxytricha trifallax | 12 |SN.NFID.....QA.....RDFNFEEKFMFIAT.....ERENLNILE.....QVDSIAK |
| Arabidopsis thaliana | 52 | ..DLVGK.GHTQ.....EA.....RAFFNSFRKDHVMV.....HLRDLQKLE.....GVLSPH |
| Klebsormidium flaccidum | 52 | ..QLVAK.GYPT.....EAREFFQAFKQVETREFFQAFKADHQA.....HGRDLQKLE.....GVSNPQH |
| Klebsormidium flaccidum | 30 | ..DVRMA.KTPA.....AV.....RKFLEDVSDKMTSL.....ADKELQQLK.....ALKR..A |
| Micromonas species | 51 | ..ELVNR.DEGH.....VA.....REFHRRFQPDHLL.....HEEDVRALA.....GLATPAH |
| Cyanophora paradoxa | 51 | ..ELIER.GYIQ.....E.....HDFLAKCREEHEHG.....HGIELHALQ.....AVNDRQH |
| Porphyridium purpureum | 51 | ..ELVRR.GYVT.....EG.....KTFLEKAGAEKMSGTLNASNLDELHLA.....GVASIQH |
| Acanthamoeba castellanii | 48 |DHSS.....EAN.....VELTRAFRENVIEAHKDT.....REVEVHTLY.....P..... |
| Acanthamoeba castellanii | 51 | ..DMVAD.NRPD.....AA.....MGFLQKHLVEHEDL.....HLDEIQRLO.....AVTSKQQ |
| Capsaspora owczarzaki | 51 | ..DLLEH.NHID.....EA.....KFFFGIHRGLFEA.....QAFHMARLE.....MLSTPQQ |
| Nematostella vectensis | 50 | ..ELIAK.GHLI.....SA.....QNFFSKYSGDLALE.....HKEDIQHLQ.....AITDSER |
| Nematostella vectensis | 52 | ..ELVYK.GHEN.....QA.....QSFFNKFRQSDQEDY.....HEEDIKKLS.....AMTBREH |
| Drosophila melanogaster | 50 | ..KILAS.GLRE.....KA.....KEFIEKYKCDLDGY.....YIEGLFNLL.....LLSKPEE |
| Drosophila melanogaster | 51 | ..DLLKA.REPR.....GA.....VELLRKYAHLVAPV..... |
| Drosophila melanogaster | 48 | ..QMMAS.KIQI.....KA.....RMLLVRFQDHLDDSD.....YISRIIKLR.....EISKPAE |
| Drosophila melanogaster | 2 |KEAQ.....DT.....GDTL.....DYFMRLVQTL.....GYTRLEA |
| Caenorhabditis elegans | 6 | ..LLFAE.....NS.....NSYLRQFSNDF.....EKNFMQLLR.....NSYGTKR |
| Caenorhabditis elegans | 45 | ..ALIEK..HAA.....TA.....RIFFRNRFKIFIEPC.....PSEFVYQLS.....LIEDAMT |
| Branchiostoma floridae | 12 |DLRE.....QA..... |
| Branchiostoma floridae | 48 | ..QLVYN.RHEK.....EA.....QKFFNRFSVEQEDW.....HQEDLRTLSTGLVNVSTCTLTKTREQ |
| Branchiostoma floridae | 51 | ..QLVYN.RHEK.....EA.....QKFFNRFSVEQEDW.....HQEDLRTLSTGLVNVSTCTLTKTREQ |
| Branchiostoma floridae | 50 | ..DLVCN.GHRD.....AA.....EAFFTRHHGNFVLD.....NMEWYELIEELA.....GVMCKQD |
| Danio rerio | 52 | ..HMARC.GLKG.....AL.....DSFYSRFHSFLFQQD.....PEQKAIVDLLR.....GALTLDQ |
| Danio rerio | 52 | ..ELVYN.NHES.....EA.....KAFFDKFSGDQECY.....YEDDLRVLC.....GALTKEH |
| Xenopus tropicalis | 50 | ..DMVQN.SLKS.....AV.....DSFYSRFHGMFMQY.....PGQRDIVEQLQ.....TTMTMQD |
| Xenopus tropicalis | 52 | ..ELVYN.QHEQ.....KA.....KSFFEKFHGDQECY.....YEDDLRILA.....SLSKMGH |
| Mus musculus_Taf5l | 51 | ..NLVQS.GPKS.....TV.....ESFYSRFHGMFLQN.....ASQKDVIEQLQ.....TTQTIQD |
| Mus musculus_Taf5 | 52 | ..ELVYN.QHEN.....EA.....KSFFEKFHGDQECY.....YQDDLRLVLS.....SLTKKEH |
| Homo sapiens_TAF5 | 52 | ..ELVYN.QHEN.....EA.....KSFFEKFHGDQECY.....YQDDLRLVLS.....SLTKKEH |
| Homo sapiens_TAF5L | 51 | ..NLVQN.SPXS.....TV.....ESFYSRFHGMFLQN.....ASQKDVIEQLQ.....TTQTIQD |
| Fonticula alba | 48 | ..DLSDR.QRYH.....LC.....QQFLQNFVSDFARP.....P..... |
| Fonticula alba | 4 |TSVP.....DL..... |
| Spizellomyces punctatus | 37 | ..ELVRQ.QKKE.....EA.....IKYSRKYLTAHWVT.....HMKEIQQAM.....ALLAFSP |
| Spizellomyces punctatus | 51 | ..DLIVR.ELRD.....QA.....KHFMELEFRVDHSEL.....HGQDIARLS.....AILEPQH |
| Allomyces macrogynus | 49 | ..DMIAC.GMVN.....EA.....RQFFDSYKSDHVAF.....HSNDLHQLD.....MIHFPTQ |
| Allomyces macrogynus | 49 | ..DMIAC.GMVN.....EA.....RQFFDSYKSDHVAF.....HSNDLHQLD.....MIHFPTQ |
| Coemansia reversa | 26 | ..ELIDD.SESQ.....KA.....FSMLNKYIKPLESQQS.....FQGFERDLC.....YLLTTKS |
| Coemansia reversa | 51 | ..DLHTR.GLHE.....KA.....AEFMELYSGDHTEH.....HGQDIGVLK.....TLTTKAK |
| Mucor circinelloides | 43 | ..HMMSK.QLVD.....HA.....VDFQEQYKGDHDIEN.....HSKDLDQLQ.....QIKAASD |
| Mucor circinelloides | 63 | ..YTLVV.KDKS.....KA..... |
| Mucor circinelloides | 54 | ..YTLVV.KDKS.....KA.....TKLR..... |
| Mucor circinelloides | 51 | ..DLVSK.NIPE.....KA.....KEFMDTYRRDHVEL.....HTPDLNTLE.....TVTEVQH |
| Mortierella elongata | 51 | ..NLVNR.GLKE.....QA.....SKFMASYKSDHLEM.....HSQDIARLS.....IITDAQH |
| Mortierella elongata | 25 | ..DLNRV.KEKK.....GA.....DSKKL.....IGHAGPVFGAS.....DSKKL..... |
| Saccharomyces cerevisiae | 50 | ..NLVAK.NPV.....YA.....RRFFDRFSPDFKDF.....HGSEINRLF.....SVNSIDH |
| Kluyveromyces lactis | 50 | ..QLVIK.DPL.....QA.....RRFFDKYSVDYKAL.....HGSEINRLF.....SVNSVDH |
| Kluyveromyces lactis | 1 |K.....VT.....HKDIEEYTVQF.....EKDLRLLR.....LMHGDKS |
| Kluyveromyces lactis | 13 | ..TCARN.KEKA.....AA.....SELSIFEKVEEY.....YSDELNAMN.....SASPDKS |
| Kluyveromyces lactis | 8 | PHDLRKR.....TRFVQKLTPTDSCHA.....SMEELAKLC.....ERVLPQH |
| Neurospora crassa | 52 | ..ELVST.GYVE.....EA.....KHYLATLRPHFDVA.....HREALDLFT.....TVTLPQH |
| Schizosaccharomyces pombe | 52 | ..NLLSQ.DHYE.....AA.....KQFYELFKDDHTDL.....HDFDVKNLK.....SLSLPSH |
| Schizosaccharomyces pombe | 49 | ..DLLQK.NDPE.....MA.....IYFFESFRIEHEVL.....HGYDIRALA.....QLKIASD |
| Ustilago maydis | 50 | ..DLVLM.GHGP.....AA.....SALYTAHAPSFFFT.....HTALLSQIR.....SLALPSH |
| consensus>70 | | ..1.....1..... |

80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155

TAF5 NTD2, mafftlinsi (conservation > 70%: yellow - partial; red - complete) - page 3

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|---------------------------|-----|------------------------------------------------------------------------------------|
| Trichomonas vaginalis | 87 |NTKSTA.....VN.....YRKFVNLMTKQSLILLI.SYLA.....DN...NQT...LLFLLNQYVNVK.I |
| Trichomonas vaginalis | 90 |NNACPK.....LA.....DNGFSLKIKTKTSFNLT.SFLE.....EN...YFY...TFLGIIQDRHLVITYI |
| Trichomonas vaginalis | 33 |KGPKLTETE.KI.....EV..... |
| Trichomonas vaginalis | 86 |NRRIPK..... |
| Trichomonas vaginalis | 82 |RAFKLPS..... |
| Trichomonas vaginalis | 79 |EKVFTH.NACLFS.....TONMNIIEVYEEAELIK.NFIN.....IQ...ENS...DLRRQITSHVELI.P |
| Trichomonas vaginalis | 61 |EEFYER.YASIFN.....MQHFILYCDKDTANVLV.DFIN.....EQ...YNS...QLRALLTDSITIR.I |
| Trichomonas vaginalis | 45 |NYNISVDQAETAAEKLLK.QQ..... |
| Trichomonas vaginalis | 63 |FYF..... |
| Naegleria gruberi | 44 |LTQLKRDSRH.....NSEKYQIELTNSKPKVHVSFIL.....DV.....NQNKIEIAQV |
| Naegleria gruberi | 25 |IEN.YQVVPN.....NE.....HHNETVIIYSVSVKNLI.QFLR.....EA...MNQ...TGL.....EQIQ.I |
| Naegleria gruberi | 87 |VNO.NEFSKR.....LL.....SHKFIRLSEASFHLLM.KFLQ.....DS...SEL...RLLSILNRFVNFK.T |
| Naegleria gruberi | 84 |MKEWNSICKS.....FGF.YNLENYQLHGSDTIDLMT.AYVN.....EKDG.DH.....ASTNVTNP |
| Naegleria gruberi | 31 |LEN.GEIIYN.....FK.....QKQFGVDMCIYTREQFL.NQLK.....KH...QFS...ELLGLFLERSDED.. |
| Blastocystis hominis | 87 |RSGDRQ.....IQ.....YMQKLITMHKMTYIVLH.SFLN.....EVPCH.....TILDIENKFIRYD.I |
| Blastocystis hominis | 70 |VRS.SPYFEHW...PGIQ.....KSR..... |
| Bigelowiella natans | 92 |LKT.NSMAYK.....FL.....EKKTKVTVMSQFSHQLLF.SFLE.....QS...SFM...LLRLLNEHVQIS.A |
| Oxytricha trifallax |  | ..... |
| Oxytricha trifallax | 50 |LA...NAEVQN.....FI.....NNKFMVKMSVYASQLLM.HFVK.....LN...QFI...LIMHILNQNTFQ.. |
| Arabidopsis thaliana | 93 |LEE.MEFARS.....LR.....KSKVNIKFCQYSYELLQ.YLH.....ST...VST...LMLGIINEHINFQ.V |
| Klebsormidium flaccidum | 104 |LLD.NDLAKS.....YR.....ENKFSVKLCQYSCCELLI.SFLH.....DS...EMM...LMLSLVNEHLNLE.V |
| Klebsormidium flaccidum | 69 |EEG.EAALSM.....ADFRYYMHQQ.....EE...RH..... |
| Micromonas species | 92 |AES.DATARK.....FR.....DNRIPIISCCQYTFDLLU.KYLH.....HA...NQM...ALLAILNAHISVT.V |
| Cyanophora paradoxa | 91 |LEE.NEIAYN.....LR.....TEKASVRMCQYSYNLLL.AFLH.....QS...RLM...LIVSILNQHVDIR.. |
| Porphyridium purpureum | 98 |MEE.NEVSSR.....FL.....KERYEIIYLTFFAFELLI.GFLT.....DDP...SRT...ILLRILNQRCRVK.F |
| Acanthamoeba castellanii | 83 |RAVGGPH.....PT..... |
| Acanthamoeba castellanii | 92 |IEE.NQVAQK.....FR.....KFKSPVRMCRYSANLLV.AFLE.....QP...KMT...LLGLANQYLDIK.V |
| Capsaspora owczarzaki | 91 |VLD.SEVGTL.....FR.....RNKYTMRLSAYSFDLLI.AFLH.....ET...RSM...LLIGLINHYINIS.V |
| Nematostella vectensis | 91 |LKS.SDIAAN.....FR.....RSKYVLRLLRSKVFYTFM.QYLR.....SS...DRV...LLQLLSRNFSIE.I |
| Nematostella vectensis | 93 |MGN.NDFIAT.....LR.....KDKGHVHMNSTVWHSLLT.GFVQYL.GSS...GKCK...TLLSIIQHLHFD.V |
| Drosophila melanogaster | 91 |LLE.NDLVVA.....ME.....QDKFVIRMSRDSHSLFK.RHIQ.....DR...RQE...VVADIVSKYLHFD.T |
| Drosophila melanogaster | 76 |DMDYA..... |
| Drosophila melanogaster | 89 |VFN.KARKLL.....AG.....LEKVKIEMSEGAFRQLL.LCTEEWTRGQQ.....EKKL..... |
| Drosophila melanogaster | 31 |AES.DDTVAH.....FR.....SSKYELHTTAVVVNRIC.AYLO.....RR...GHV...LIMNLLYTLWHVHI.V |
| Caenorhabditis elegans | 40 |VRA.NEVYNA.....FI.....KDKGHVHMNSTVWHSLLT.GFVQYL.GSS...GKCK...TLLSIIQHLHFD.V |
| Caenorhabditis elegans | 85 |LRA.NEHVHI.....LR.....ENKFLVRLSRPTLKHLE.SIQT.....RVIG..... |
| Branchiostoma floridae | 34 |FLTLSG.QELLDL.....LT.....DKKLQVSGEENIVDAVI.RWLD...HDQ...ENRR..... |
| Branchiostoma floridae | 47 |AKCV.....CFA.RYC..... |
| Branchiostoma floridae | 99 |MEV.NDLMDT.....FR.....SSKFVLRMSRDSYQSLR.RYLK.....QN...EHR...ELLSILODHLFID.V |
| Branchiostoma floridae | 92 |MEV.NDLMDT.....FR.....SSKFVLRMSRDSYQSLR.RYLK.....QN...EHR...ELLSILODHLFID.V |
| Branchiostoma floridae | 94 |LFT.KPKVKA.....FR.....ETKYAISLSDKAFQYLL.RYLQ.....SD...DNL...ILLRFLNTYLHVN.V |
| Danio rerio | 95 |VTT.NPKLCA.....LL.....DHKYVVVLTQDAYSYLL.RYLQ.....SE...DNS...AICWVLTALHQLV.V |
| Danio rerio | 93 |MKG.NEALLD.....FR.....TSRFVLRISRDSYQLL.RHLQ.....ER...QNN...QIWNIIQEHLYID.I |
| Xenopus tropicalis | 93 |IHS.NCKLRA.....FL.....DNKYVVVLTQDAYSYLL.RYLQ.....SD...NNT...ALCKALALHQLD.V |
| Xenopus tropicalis | 93 |MGS.NETILD.....FR.....TSKFVLRISRDSYQLL.RHLQ.....ER...QNN...QIWNIIQEHLYID.I |
| Mus musculus_Taf5l | 94 |ILS.NFQLRA.....FL.....DNKYVVVLTQDAYSYLL.RYLQ.....SD...NNT...ALCKVLAHVHHLV.V |
| Mus musculus_Taf5 | 93 |MKG.NETMLD.....FR.....TSKFVLRISRDSYQLL.RHLQ.....EK...QNN...QIWNIIQEHLYID.I |
| Homo sapiens_TAF5 | 93 |MKG.NETMLD.....FR.....TSKFVLRISRDSYQLL.RHLQ.....EK...QNN...QIWNIIQEHLYID.I |
| Homo sapiens_TAF5L | 94 |ILS.NFQLRA.....FL.....DNKYVVVLTQDAYSYLL.RYLQ.....SD...NNT...ALCKVLTALHHLV.V |
| Fonticula alba | 74 |SPATGG..... |
| Fonticula alba | 10 |AA...FK...PRRFTVQLSSLTQNLIL.SFME.....DN...RLT...LLIRMVNNYLDLK.A |
| Spizellomyces punctatus | 78 |DTSCDA.....YRDLFD.....ESRWDALIEQFHA.....D..... |
| Spizellomyces punctatus | 92 |VSE.NDLAQN.....FR.....SNRYGLRMSRYSFELL.SFLQ.....DN...NFM...LLLRIVNEHISIL.V |
| Allomyces macrogynus | 90 |IQE.NEYARM.....HR.....TNRFTVPMSTTTFQLLI.SFLE.....DN...DFV...ALLRILNTHVNIQ.V |
| Allomyces macrogynus | 90 |IQE.NEYARM.....HR.....SNRFTVPMSTTTFQLLI.SFLE.....DN...DFV...ALLRILNTHVNIQ.V |
| Coemansia reversa | 69 |IQD.APAFRNW...DGIA.....SSRE..... |
| Coemansia reversa | 92 |VEE.NELAKV.....YR.....ENKYGVRMTRVGLLELL.SFLQ.....DH...EFT...LLMRAVNQHLNIR.T |
| Mucor circinelloides | 84 |IQN.NTIACL.....YL.....NNKYSIRMPSPFELFF.QYIQ.....DH...KFI...NLIRIVNQYLNIIH.I |
| Mucor circinelloides |  | ..... |
| Mucor circinelloides | 92 |IQE.NELAQM.....YR.....SNKYNLRMSGVPPFELF.NYLQ.....DN...KFM...LLLRIVNQYLNIIQ.V |
| Mortierella elongata | 92 |IKE.NELAQM.....YK.....SNKYNLRMAPVFSPELLI.AFLQ.....DN...KFI...VLLRIVNQHVNIQ.V |
| Mortierella elongata | 52 |PNKYLITCSEDKSARLW.....ST.....STLTNL..... |
| Saccharomyces cerevisiae | 90 |IKE.NEVASA.....FQ.....SHKYRITMSKTTLNLLL.YFLN.....EN...ESIGGSIIISVINQHLDPN.I |
| Kluyveromyces lactis | 90 |IKE.NELAQG.....FQ.....TNKYKITISRITLNL.LL.YFLN.....EN...ESVGGSLIISIINQNLDPN.I |
| Kluyveromyces lactis | 31 |VEA.NKFYNE.....FI.....QDKDHVHMNATRFTSLT.RFIQHL...SQG...GKVR..... |
| Kluyveromyces lactis | 54 |GSIEIE..... |
| Kluyveromyces lactis | 47 |PHK.EEMVPV.....KFAVEINKRNFSTMD.....KME...MI..... |
| Neurospora crassa | 93 |IRE.NQTIKL.....YR.....ENKYRIPNLQSLSGNL.FHLE.....RE...ADAGGSTITFILQTFQCV.D |
| Schizosaccharomyces pombe | 93 |VAE.DRTAQQ.....YR.....QNKYQLHFSRITFDLLL.HFLF.....EN...VSNGGSIIIKLIHQHIDIH.I |
| Schizosaccharomyces pombe | 90 |VEE.IEIAQL.....YR.....KNKYRINFTRSTFDLLV.QFLF.....EN...EVNGSGIIRLLNQYIDIK.I |
| Ustilago maydis | 91 |IQS.DPLAQR.....FR.....SERYVVKMSSTVFSLLL.GWLT.....DGGGP..... |
| consensus>70 |  | ..... |

160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235

TAF5 NTD2, mafftlnsi (conservation > 70%: yellow - partial; red - complete) - page 4

| | | |
|---------------------------|-----|--------------|
| Trichomonas vaginalis | 135 |ISQEA.. |
| Trichomonas vaginalis | 139 | P...YEK.... |
| Trichomonas vaginalis |  | ..... |
| Trichomonas vaginalis |  | ..... |
| Trichomonas vaginalis | 131 | KYEV..... |
| Trichomonas vaginalis | 113 | KRDV..... |
| Trichomonas vaginalis |  | ..... |
| Trichomonas vaginalis |  | ..... |
| Naegleria gruberi |  | ..... |
| Naegleria gruberi | 70 | HDF..... |
| Naegleria gruberi | 138 | ...YKQQP.. |
| Naegleria gruberi |  | ..... |
| Naegleria gruberi | 81 | ..YH..... |
| Blastocystis hominis | 135 |VDTPI.. |
| Blastocystis hominis |  | ..... |
| Bigelowiella natans | 143 |TTRAPL. |
| Oxytricha trifallax |  | ..... |
| Oxytricha trifallax | 99 |LSGEKNI |
| Arabidopsis thaliana | 144 |YSGQPT. |
| Klebsormidium flaccidum | 155 |VPGQPS. |
| Klebsormidium flaccidum |  | ..... |
| Micromonas species | 143 |VKGDPA. |
| Cyanophora paradoxa | 141 |YPGFPSPA |
| Porphyridium purpureum | 150 |EVPRAP. |
| Acanthamoeba castellanii |  | ..... |
| Acanthamoeba castellanii | 143 |FSGEPD. |
| Capsaspora owczarzaki | 142 | ...FSGSPL. |
| Nematostella vectensis | 142 |SNRK... |
| Nematostella vectensis | 144 |FEGRPR. |
| Drosophila melanogaster | 142 |YEGMAR. |
| Drosophila melanogaster |  | ..... |
| Drosophila melanogaster |  | ..... |
| Drosophila melanogaster | 83 | EN..... |
| Caenorhabditis elegans |  | ..... |
| Caenorhabditis elegans | 122 | K..... |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae |  | ..... |
| Branchiostoma floridae | 150 |FDGVPR. |
| Branchiostoma floridae | 143 |FDGVPR. |
| Branchiostoma floridae | 145 |KPTQNG. |
| Danio rerio | 146 |TAAQRT. |
| Danio rerio | 144 |FDGMPR. |
| Xenopus tropicalis | 144 |QPVKRT. |
| Xenopus tropicalis | 144 |FDGMPR. |
| Mus musculus_Taf5l | 145 |QPAKRT. |
| Mus musculus_Taf5 | 144 |FDGMPR. |
| Homo sapiens_TAF5 | 144 |FDGMPR. |
| Homo sapiens_TAF5L | 145 |QPAKRT. |
| Fonticula alba |  | ..... |
| Fonticula alba | 54 |YPGRPL. |
| Spizellomyces punctatus |  | ..... |
| Spizellomyces punctatus | 143 |VSTEPE.. |
| Allomyces macrogynus | 141 |TNSKA.. |
| Allomyces macrogynus | 141 |TNSKAK. |
| Coemansia reversa |  | ..... |
| Coemansia reversa | 143 |VDGAVP. |
| Mucor circinelloides | 135 |VTGKLS. |
| Mucor circinelloides |  | ..... |
| Mucor circinelloides |  | ..... |
| Mucor circinelloides | 143 |VHGKLL. |
| Mortierella elongata | 143 |GAAAAG. |
| Mortierella elongata |  | ..... |
| Saccharomyces cerevisiae | 144 |VESVTA. |
| Kluyveromyces lactis | 144 |VDVVKS. |
| Kluyveromyces lactis | 73 | HG..... |
| Kluyveromyces lactis |  | ..... |
| Kluyveromyces lactis |  | ..... |
| Neurospora crassa | 147 |SARGP.. |
| Schizosaccharomyces pombe | 147 |VPGRPT. |
| Schizosaccharomyces pombe | 144 |TMPQVE. |
| Ustilago maydis | 128 |VSSASN. |
| consensus>70 |  | ..... |

TAF6 HEAT, mafftlinsi (conservation > 70%: yellow - partial; red - complete) - page 2

| | | |
|----------------------------|----|-----------------------------------------------------------------------------------|
| Trichomonas vaginalis | 33 | NIVSLITSR..CLNSFPNADIECFNYFNDFIF..... |
| Trichomonas vaginalis | 3 |QMLVPPYYVRFSLVQFR..... |
| Trichomonas vaginalis | 9 |QTLVPPYYIRFSLVQFK..... |
| Trichomonas vaginalis | 23 | ELLSLVINK..YSQIYPTLRTRITDHLVKTFI..... |
| Trichomonas vaginalis | 18 | KFLDNLIK..FTPQFPRLRQLADHFSITFL..... |
| Trichomonas vaginalis | 18 | EYLVVICDK..ISNGYPMVQPHITSQLISVLV..... |
| Trichomonas vaginalis | 18 | EFLLVICDK..LSNTYPMVQPHITAQLISVLI..... |
| Trichomonas vaginalis | 3 | VIAERCIED..NSNSYADATHRMIKNTIKSFM..... |
| Trichomonas vaginalis | 23 | IFLEEIIQY..FSKFNPFIKENILKRLNMMLS..... |
| Trichomonas vaginalis | 24 | DIIIALIKR..ASSEYPGIRTEIFNQLVGVSF..... |
| Naegleria gruberi | 36 | NTIAYICRK..FGSSYHTLQPRITKTLHLAFL..... |
| Bigelowiella natans | 6 | ..YYERVDA..IKSSNQALHHRILHSLAN... |
| Bigelowiella natans | 36 | RLIKTVICNR..FGKTYPDLQPRVTRQLLNAFI..... |
| Oxytricha trifallax | 38 | FVMHDLVVK..TKGKLPDLKQLVNLCLSRLF..... |
| Arabidopsis thaliana | 36 | NLVSLICKR..YGTVYITLQSRLRTRTLVNALL..... |
| Arabidopsis thaliana TAF6b | 36 | STVASTCKR..FGHVYHNLPRVTRSLLHTFLL..... |
| Klebsormidium flaccidum | 37 | TIVATICHR..YGHYSNIQPRLTKTLVNSFLL..... |
| Micromonas species | 35 | EVMSGICAR..FGKDYPTIQPRITRLLRAML..... |
| Porphyridium purpureum | 36 | DILLNICTK..FGVTYTIQSHITKTLSSALQ..... |
| Porphyridium purpureum | 37 | QVLMRIWAM..TSSTF.TLRPRIAKTIVVALV..... |
| Acanthamoeba castellanii | 36 | SLVALICLR..FGKAYTNLQPRITKTLINAFL..... |
| Capsaspora owczarzaki | 36 | QVVSIIICRR..YSSSHNLQPRTAKTLLKVFL..... |
| Nematostella vectensis | 37 | RLVAQICRS..FNSTTNSVQTRVTKTYCKALH..... |
| Nematostella vectensis | 37 | CILAFLSRK..CSNPVNYLHQQLLMLTREVLT..... |
| Drosophila melanogaster | 8 |DRQAVKYIRHRLMKMCSVPLM.GI..... |
| Drosophila melanogaster | 37 | RLMAQICKN..FNTLTNNLQTRVTRIFSALQ..... |
| Drosophila melanogaster | 37 | NIMAHIVRQ..FDAADNGILPRVIGVYNKALL..... |
| Caenorhabditis elegans | 37 | KTLVGLVRDQVDKHDAGRTARRLFDSESHRIFR..... |
| Caenorhabditis elegans | 70 | KLLAELSSQ..YQNL..NLNVRIIQTLRGVLS..... |
| Branchiostoma floridae | 37 | RLMGNMCRN..FSSNINNIQSRMTKTYTKILH..... |
| Branchiostoma floridae | 37 | RLMGNMCRN..FSSNINNIQSRMTKTYTKILH..... |
| Branchiostoma floridae | 36 | RLLAQICRS..GCMSVEGLQKQLLLALQKVLV..... |
| Branchiostoma floridae | 36 | RLLAQICRS..GCMSVEGLQKQLLLALQKVLV..... |
| Danio rerio taf6l | 36 | LLLSHIFWT..HGDLVSGLYHQILLSLQKVLV..... |
| Danio rerio taf6 | 37 | RLMAQSKCT..FSTTTNNIQSRITKTFTKALL..... |
| Xenopus tropicalis taf6l | 36 | GLLS.LIWT..HQDLAGSLYPQILQSLQKVLG..... |
| Xenopus tropicalis taf6 | 37 | RLIAQICKN..FITTTNNIQSRITKTFTKTWV..... |
| Mus musculus Taf6l | 37 | LLLSHIFWT..HGDLVSGLYQQILLSLQKVLV..... |
| Mus musculus Taf6 | 37 | RLVAQICKH..FSTTTNNIQSRITKTFTKSWV..... |
| Homo sapiens TAF6 | 37 | RLVAQICKH..FSTTTNNIQSRITKTFTKSWV..... |
| Homo sapiens TAF6L | 37 | LLLSHIFWT..HGDLVSGLYQHILLSLQKILA..... |
| Fonticula alba | 37 | DVVKTIIVK..YGRAYHTLQPRISRTLRLTALFAGLTAPGAELPIDTPMADAPAPAEFNAAAPGTDATGAGTTAAATATAT |
| Spizellomyces punctatus | 37 | KLISYICNQ..YGATYQSLQPRITKTLRRAFL..... |
| Allomyces macrogynus | 37 | RLLAGVLAQ..HQSAYPLMTTRVQKTLTALV..... |
| Allomyces macrogynus |  | ..... |
| Coemansia reversa | 36 | EQIAEICQQ..FGQSYHTLQTRIAARTLLRAFL..... |
| Mucor circinelloides | 37 | TMIATICHQ..YGKAYHTLQPRITKTLRRAFL..... |
| Mortierella elongata | 36 | DILLIICNK..YGASYHTLQPRVTRTLRRAFL..... |
| Saccharomyces cerevisiae | 47 | SLLDYVLKK..FPQAYKSLKPRVTRTLKTFLL..... |
| Kluyveromyces lactis | 54 | SLLDHVLKK..FPKVHKSLLKPRVTRTLKTFLL..... |
| Neurospora crassa | 44 | SLLGTIARK..YSKTNALLRPKLRTRTCLKFFL..... |
| Schizosaccharomyces pombe | 37 | FLLGIVCDR..FGNVYTYLQPRVTRTALKAFLL..... |
| Ustilago maydis | 54 | ALLTHVET..FGSSYPTLQPRVVATLLKALMTGV.LPGSSDQDSARRSEALSAR..... |
| consensus>70 |  | ..... |

80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155

TAF6 HEAT, mafftlinsi (conservation > 70%: yellow - partial; red - complete) - page 3

| | | | | | | | | |
|----------------------------|-----|-----------------------------------------------------------------|--------|-------|-----------------|-------|----------------|-------|
| Trichomonas vaginalis | 63 |SE.N.NSIH.....VL | YGALS | GFSL |GNDYIERIL | P | HLPPFILRYAHSI | ..... |
| Trichomonas vaginalis | 19 |DH.S.NEWN.....TLYS | SLCTAR | ALVQN |PELKNIE | ..... | ..... | ..... |
| Trichomonas vaginalis | 25 |DH.P.NDWD.....TLYS | SLCTVR | ALVQN |PKLEYIN | ..... | ..... | ..... |
| Trichomonas vaginalis | 53 |DRKN.GNFQ.....VKLG | AAIGLS | SVI |GSHVVRKVII | P | QFPRIMNSLDEQ | ..... |
| Trichomonas vaginalis | 48 |DKIQ.LNIG.....RKVG | SAIALS | YSI |GQEVKDVIL | P | KIPELLARIYQR | ..... |
| Trichomonas vaginalis | 48 |DP.A.RSVS.....EKYG | AFCGL | NAF |GSETIARFVL | P | HIDVIVKDLVKG | ..... |
| Trichomonas vaginalis | 48 |EH.D.YSVS.....EKFG | AFCGL | NAF |GPQTIKFFVL | P | HIEMIIKDLVSG | ..... |
| Trichomonas vaginalis | 33 |NN.H.TAID.....KKFA | EV | LNKF | ..... | ..... | ..... | ..... |
| Trichomonas vaginalis | 53 |T.NNYQ.....QRYG | LLRCIF | AFI |SQNTFKSIII | P | KILTELKSIKES | CL |
| Trichomonas vaginalis | 54 |NP.E.TNYP.....ALYG | ALYTL | LN |DDAFRTVI | P | HAKVIAERCIED | ..... |
| Naegleria gruberi | 66 |DP.K.RSRA.....THYG | AIVGI | TAL |GSHVTQLLLL | P | PPKNSNLKI | ..... |
| Bigelowiella natans | 32 |DP..... | ..... | GHQLL | ..... | ..... | ..... | ..... |
| Bigelowiella natans | 66 |DP.T.KPLT.....THYG | AIVGL | LAVM |GDEVVEVTL | L | KMRQYLNLLRPV | ..... |
| Oxytricha trifallax | 68 |RE.QINQMSQQNQATVEVSGLI | YGALT | SLRTF |GAVITRQALI | P | NLINLSVLLRKK | ..... |
| Arabidopsis thaliana | 66 |DP.K.KALT.....QHYG | AIOGL | LAAL |GHTVVRLLIL | S | NLEPYLSLLEPE | ..... |
| Arabidopsis thaliana TAF6b | 66 |DP.T.KALP.....QHYG | AIOGM | VAL |GLNMVRFVL | V | NLGPYLLLLLEPE | ..... |
| Klebsormidium flaccidum | 67 |NP.K.QTYP.....QHYG | SIKGL | VAL |GNRVVRLVL | V | NLATYLELLRED | ..... |
| Micromonas species | 65 |DP.R.KPFS.....THFG | AIAL | LAAL |GPRVTRLLIV | P | NLKAYLEVLEPHL | ..... |
| Porphyridium purpureum | 66 |DS.S.KPLT.....SOYG | AVVGL | SVF |GRHVFEVILL | P | FVRVYVPVLEEE | ..... |
| Porphyridium purpureum | 66 |GA.DAHALG.....VIC | SALD | VLCQI |GGKLLFWAVA | L | H | ..... |
| Acanthamoeba castellanii | 66 |DL.S.RPLT.....THYG | AIVGL | SSL |GHYVTQLLIL | P | NLKSYLTLLLEPEL | ..... |
| Capsaspora owczarzaki | 66 |DP.H.KPLT.....SHFG | AVVGL | EHL |GAETISALIL | P | NFASYVALLALK | ..... |
| Nematostella vectensis | 67 |QE.K.APLA.....THYG | AITGL | LAEL |GQEVIKVVLV | P | RLKIESALISRAL | ..... |
| Nematostella vectensis | 67 |DE.S.RPYC.....SHFG | AVVGL | MEL |GSEALEQFLL | P | HLSTYWHQLQV | ..... |
| Drosophila melanogaster | 31 |HQPPDL.P.EEFM.....ERYG | SLGTL | MSD |GVTVMRTKK | ..... | .....QAVAAAK | ..... |
| Drosophila melanogaster | 67 |ND.K.THLS.....SLYG | SIAGL | SEL |GGEVIKVFII | P | RLKFISERIEPHL | ..... |
| Drosophila melanogaster | 67 |K.KPLT.....TVFG | AVVGL | GKM |GNHAVRACIL | P | QLKYLSEHIDSHM | ..... |
| Caenorhabditis elegans | 69 |DT.G.SSFS.....MIYG | TVHLL | QEFV |GPKKAAWLLT | L | EL | ..... |
| Caenorhabditis elegans | 98 |GN..QDPA.....AIYG | VLC | TFAF |GNLTINSVVL | P | KMHDYCSLQASR | ..... |
| Branchiostoma floridae | 67 |DE.Q.SHLA.....TRYG | ALAGL | LAEM |GHDVVKSLLI | P | KLKEEGEKVKTLM | ..... |
| Branchiostoma floridae | 67 |DE.Q.SHLA.....TRYG | ALAGL | LAEM |GHDVVKSLLI | P | KLKEEGEKVKTLM | ..... |
| Branchiostoma floridae | 66 |DP.A.RPLC.....SHYG | AVVGL | TAL |GSKAVEDVLY | P | QLGTYWPFLOSW | ..... |
| Branchiostoma floridae | 66 |DP.A.RPLC.....SHYG | AVVGL | TAL |GSKAVEDVLY | P | QLGTYWPFLOSW | ..... |
| Danio rerio taf6 | 66 |DP.V.RPLC.....SHYG | AVVGL | LHAL |GSKAVERVLY | P | HLPAYWANLQAV | ..... |
| Danio rerio taf6 | 67 |DE.K.TQWT.....TRYG | CIAL | LAEL |GHDVIKTLII | P | RLFVEGARIKAV | ..... |
| Xenopus tropicalis taf61 | 65 |DP.V.RPLC.....SHYG | AVVGL | LHAL |GSKAVERVLY | P | LLPTYWAGLQTV | ..... |
| Xenopus tropicalis taf6 | 67 |DP.R.TPWT.....TRYG | SIAGL | LAEL |GPDVVKTLIV | P | RLAVEGERLRSV | ..... |
| Mus musculus Taf61 | 67 |DP.V.RPLC.....SHYG | AVVGL | LHAL |GSKAVERVLY | P | HLPTYWNTLQAV | ..... |
| Mus musculus Taf6 | 67 |DE.K.TPWT.....TRYG | SIAGL | LAEL |GHDVIKTLIL | P | RLQOEGERIRSVL | ..... |
| Homo sapiens TAF6 | 67 |DE.K.TPWT.....TRYG | SIAGL | LAEL |GHDVIKTLIL | P | RLQOEGERIRSVL | ..... |
| Homo sapiens TAF6L | 67 |DP.V.RPLC.....CHYG | AVVGL | LHAL |GSKAVERVLY | P | HLSTYWNTLQAV | ..... |
| Fonticula alba | 114 | TTTTPATTPAPAAAPAAAS.A.RPLT.....TRFG | ALRGL | LAEL |GPESVRLHIL | P | FAAALAESFQ | ..... |
| Spizellomyces punctatus | 67 |DP.L.KPLS.....TNYG | AIVGL | LAAL |GPEAVRVL | L | NVKAFGDRIQDDL | ..... |
| Allomyces macrogynus | 67 |DD.S.KAVT.....SKYG | AVVAL | LALL |GTHSARLLVA | E | APRYEARIF | ..... |
| Allomyces macrogynus | 8 |D.R.AALV.....AQYG | AVL | GAA | ..... | ..... | ..... | ..... |
| Coemansia reversa | 66 |DP.T.KPLT.....THYG | AIVGL | TKL |GANMVKVLV | L | NIKAYMCLLDVEL | ..... |
| Mucor circinelloides | 67 |DP.A.RPLT.....TQYG | SIIGL | DKI |GTEVTRVLI | A | NIKPHYTENCLBLG | ..... |
| Mortierella elongata | 66 |DP.E.KPLT.....THYG | AILGL | TRM |GNEVFKTLV | V | NLKYTYSTIESEL | ..... |
| Saccharomyces cerevisiae | 67 |DI.N.RVFG.....TYYG | CLKG | SVL |EGESIRFFL | G | NLNNWARLVFNE | ..... |
| Kluyveromyces lactis | 84 |DI.N.RSFG.....TYYG | CVRG | SVL |GNETIRFFL | G | NLQNWSKLVFEE | ..... |
| Neurospora crassa | 74 |DP.S.KSPA.....VLYG | AISGL | LAAA |GPEAVRILV | L | NLKMFDGILTPL | ..... |
| Schizosaccharomyces pombe | 67 |DN.T.KPYS.....THYG | AIKGL | KTM |GKEAIRVLV | V | NIKVYEVLRKTL | ..... |
| Ustilago maydis | 106 |EP.R.ASPG.....TKLG | ALM | ARRL |GKASFR | T | STQLNAKLS | ..... |
| consensus>70 | |d..... | yg | gl |l | g | p | ..... |
| | | 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 | | | | | | |

TAF6 HEAT, mafftinsi (conservation > 70%: yellow - partial; red - complete) - page 4

| | | |
|----------------------------|-------------------------------------------|--|
| Trichomonas vaginalis | ..... |  |
| Trichomonas vaginalis | ..... |  |
| Trichomonas vaginalis | ..... |  |
| Trichomonas vaginalis | ..... |  |
| Trichomonas vaginalis | ..... |  |
| Trichomonas vaginalis | ..... |  |
| Trichomonas vaginalis | ..... |  |
| Trichomonas vaginalis | ..... |  |
| Trichomonas vaginalis | ..... |  |
| Trichomonas vaginalis | 95 QIASLYGIVCGIRSLGDFSVSSVLFPKLLTLFFHYPED | |
| Trichomonas vaginalis | ..... |  |
| Naegleria gruberi | ..... |  |
| Bigelowiella natans | ..... |  |
| Bigelowiella natans | ..... |  |
| Oxytricha trifallax | ..... |  |
| Arabidopsis thaliana | ..... |  |
| Arabidopsis thaliana TAF6b | ..... |  |
| Klebsormidium flaccidum | ..... |  |
| Micromonas species | ..... |  |
| Porphyridium purpureum | ..... |  |
| Porphyridium purpureum | ..... |  |
| Acanthamoeba castellanii | ..... |  |
| Capsaspora owczarzaki | ..... |  |
| Nematostella vectensis | ..... |  |
| Nematostella vectensis | ..... |  |
| Drosophila melanogaster | ..... |  |
| Drosophila melanogaster | ..... |  |
| Drosophila melanogaster | ..... |  |
| Caenorhabditis elegans | ..... |  |
| Caenorhabditis elegans | ..... |  |
| Branchiostoma floridae | ..... |  |
| Branchiostoma floridae | ..... |  |
| Branchiostoma floridae | ..... |  |
| Branchiostoma floridae | ..... |  |
| Danio rerio taf6l | ..... |  |
| Danio rerio taf6 | ..... |  |
| Xenopus tropicalis taf6l | ..... |  |
| Xenopus tropicalis taf6 | ..... |  |
| Mus musculus Taf6l | ..... |  |
| Mus musculus Taf6 | ..... |  |
| Homo sapiens TAF6 | ..... |  |
| Homo sapiens TAF6L | ..... |  |
| Fonticula alba | ..... |  |
| Spizellomyces punctatus | ..... |  |
| Allomyces macrogynus | ..... |  |
| Allomyces macrogynus | ..... |  |
| Coemansia reversa | ..... |  |
| Mucor circinelloides | ..... |  |
| Mortierella elongata | ..... |  |
| Saccharomyces cerevisiae | ..... |  |
| Kluyveromyces lactis | ..... |  |
| Neurospora crassa | ..... |  |
| Schizosaccharomyces pombe | ..... |  |
| Ustilago maydis | ..... |  |
| consensus>70 | ..... |  |
| | 240 245 250 255 260 265 270 275 | |

TAF6 HFD, mafftlinsi (conservation > 70%: yellow - partial; red - complete) - page 6

| | | |
|----------------------------|-----|----|
| Trichomonas vaginalis | | .. |
| Trichomonas vaginalis | | .. |
| Trichomonas vaginalis | | .. |
| Trichomonas vaginalis | | .. |
| Trichomonas vaginalis | 199 | EL |
| Trichomonas vaginalis | 201 | V. |
| Trichomonas vaginalis | 203 | EF |
| Naegleria gruberi | 204 | EL |
| Blastocystis hominis | | .. |
| Blastocystis hominis | | .. |
| Bigelowiella natans | 186 | HR |
| Oxytricha trifallax | | .. |
| Arabidopsis thaliana | | .. |
| Arabidopsis thaliana_TAF6b | | .. |
| Klebsormidium flaccidum | 202 | L. |
| Micromonas species | 198 | A. |
| Cyanophora paradoxa | 221 | LP |
| Porphyridium purpureum | 180 | DA |
| Porphyridium purpureum | | .. |
| Acanthamoeba castellanii | 148 | TA |
| Capsaspora owczarzaki | 221 | QA |
| Nematostella vectensis | 172 | RM |
| Nematostella vectensis | 237 | TE |
| Drosophila melanogaster | 177 | VL |
| Drosophila melanogaster | 221 | GE |
| Caenorhabditis elegans | 186 | QK |
| Caenorhabditis elegans | 232 | HE |
| Branchiostoma floridae | 224 | AE |
| Branchiostoma floridae | 224 | AV |
| Branchiostoma floridae | 167 | KT |
| Branchiostoma floridae | 164 | KT |
| Danio rerio taf6 | 223 | AE |
| Danio rerio taf6l | 172 | KV |
| Xenopus tropicalis taf6l | 172 | KV |
| Xenopus tropicalis taf6 | 231 | AE |
| Mus musculus Taf6l | 172 | KV |
| Mus musculus Taf6 | 233 | AE |
| Homo sapiens TAF6 | 233 | AE |
| Homo sapiens TAF6L | 172 | KV |
| Fonticula alba | | .. |
| Spizellomyces punctatus | 205 | SL |
| Allomyces macrogynus | 204 | ET |
| Coemansia reversa | 196 | ST |
| Mucor circinelloides | 201 | SQ |
| Mortierella elongata | 236 | AT |
| Saccharomyces cerevisiae | 238 | A. |
| Kluyveromyces lactis | 237 | SQ |
| Neurospora crassa | 206 | KT |
| Schizosaccharomyces pombe | 216 | RD |
| Ustilago maydis | 233 | ED |
| consensus>70 | | .. |

TAF12 protein, gappout (conservation > 70%: yellow - partial; red - complete)

Supplemental Fig. S32

