

Fig S4

Giardia -----MALSALSPSSMAGTSVLMRLMRGLVKPSSSTIEQQIKL 38
Homo -----MAAQCVRLARRSLPALALSRLRSPRLCTATKQKNSGQNL EEDMQ--SEQKADPPATEKTLLEEKVKLEEQLKETVEKYKR 80
Saccharomyces MRAFSAAATVRATTRKSFIPMAPRTPFFVTPSFTKNVGSRRMRMFYSDEAKSEESKENNEDLTEEQSEIKKLESQLSAKTKEASELKDRLLR 90
Escherichia -----MSSKEQKTPEGQAPEEIMDQHEEIEAVEPEASAEQVDPDEKVANLEAQLAEAQTRE---RDGILR 64
Trichomonas -----MLSSQQYLPSTLFFVRTFVEKAAESAKQATEKAVANDKKPEEKPKPTIQELEAQIKDIRNRNLF 62
Trypanosoma -----MRALTFRSSLCAGRTAVGAMCFGRLLWASSTSATEGSEKQNVTEDESETVSVAPVSPAYAKLEKELSDAKERIAELKKEVLY 81
Dictyostelium -----MNSLIRRGLVSI RTSTVIKPSFGLMRNRFYSTENNQEAAK--PEETENKPAPG-SLEETIEKLKEELEETKKQLLY 75
Bacillus -----MSEEKQTV EQNETEEQEIIEEQAAAEQQEETNESELLQNQINELQGLLEEKENKLLR 58
Halobacterium ---MSDHAHAADAADTDAPEGDDAGDDGEGQAGDDGTSALSERVRLADADNADALADDVAAL EARVETLTDELADAEDVADLTERVQT 87

Giardia LLAERQSAAEQAQADAVAEARIEATQRCLRELLKILDAVDGLHAQAKSHPKSRGALTKHLHEIQESI AATHSLADQVLDTL EAQRIAPNRL 128
Homo ALADTENLRQRSQKLV EEA KLYCIQAFCKDLLEVADVLEKATQCVPK--EEIKDDNPHLKNLYEGLVMTVEVQIQKVFTHG LLLKLN-PVG 167
Saccharomyces SVADFRNLQVTKKDIQKAKDFALQKFAKDLLESVDNFGHALNAFKE--EDL-QKSKEISDLYTGVRMTRDVFENTLRKHGIEKLD-PLG 176
Escherichia VKAEMENLRRTTELDIEKAHKFALEKFINELLPVIDS LDRALEVADK-----ANPDMSAMVEGIELTLKSM LDVVRKFGVEVIA-ETN 146
Trichomonas LLAEVENARRRRFARLEVEMETYAVSKLAKDLLPVADNMGR IINSGAK-----QNVKD VIEAVKLVDAEFHNIFKRFKIEKIV-SKG 142
Trypanosoma RAADAENARRIGSEDTVTKAKAYCITSGKMDLDVVDTLERGLEAITKLPQAEVEGHKTLSSIHGTGKLSLKL LNNLAKHGIEKLDVAVG 171
Dictyostelium TAADRENVRFAKEDNEKAKKFGIQSFTKELLEVV DQLEMATNLFPK--EKL-DENKELKDLHEGVKMT EQFLFKIMGNQGLQRFN-PIG 161
Bacillus VQADFENYKRRSRLEMEASQKYRSQNI VTDLLPALDSFERALQVEAD-----NEQTKSLLQGMEMVHRQLVEALKKEGVEAIE-AVG 139
Halobacterium KQADFKNYKERAKRKQEEIRERATEDLVERLLDVRDNLDRALDQEESE-----ESDEDGIREGVELTRDEFDRVLETEGVTEIRPEPG 169

Giardia DMFDSLHN AVRVIEDSSLPS-NTVCETIQPGLLHKGIVIRPAQVVINDIY-- 178
Homo AKFDFEYEHEALFHTPVEGKEP-GTVALVSKVGYKLHGRTLREALVGVVKEA-- 217
Saccharomyces EPFDENKHEATFELPQPDKEP-GTVFHVQQLGFTLNDRVIRPAKVGIVKGEEN 228
Escherichia VPLDENVHQAIAMVESDDVAP-GNVLGINQKGYTLNGRTIRAAAMVTAKAKA- 197
Trichomonas QKFDQYHDAIQMIDTRGSAPSGTIIDCTTEGYKIDKLLRAAKVIVAK---- 191
Trypanosoma AKFDENFHDALLKVPPTAEAPPGHISTVKTGYKIQDRVLRASQVGVASDD-- 222
Dictyostelium EKFDENNHAI F E LNDPTKEN-NTVGHVVKQGYKLHDLVRPAMVGVN KIKPQ 213
Bacillus QEFDENLHQAVMQAEDENYGS-NIVVEENQKGYKLD RVIRPSMVKVNQ---- 187
Halobacterium DSVDAARHEVMMRVDS--QPAGTIVDVIRPGYEMSGVVRAAQVTVSEE--- 217