

Figure S1

CLUSTAL W (1.83) multiple sequence alignment

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S. cerevisiae MSH5 -----
A. thaliana MSH5 -----
C. elegans MSH5 -----MST 3
H. sapiens MSH5 -----
M. musculus MSH5 -----
H. sapiens MSH4 -----MLRPEISSTSPSAPAVSPS-----SGETRSPQGPRYNFGL 35
M. musculus MSH4 MCCLFLRLRDYSTAHALSLPPCQRCGLQPWSARSHARRTLGVKAGEMLRQEASLSSSP 60
A. thaliana MSH4 -----
C. elegans MSH4 -----
S. cerevisiae MSH4 -----MSESNLSSSFISTN 13

                                     ↓
S. cerevisiae MSH5 --MSHEWLI SASETMRSIGNGEGLRDKGAVVANNDGEFNEGDTNREEDSSTIFSFDFDEE 58
A. thaliana MSH5 -----MEEMEDTETEPQ 12
C. elegans MSH5 RWRYYN SKRGN GFRGRGRGRGRTSLTAVALPRDDNFHKGAQDGAYFKDMPMDPEQFRDE 63
H. sapiens MSH5 -----MASLGANPRRTPQGP--RPGAASSGFSP-APVPGPREAEEEEVEEEELAE 49
M. musculus MSH5 -----MAFRATPGRTPPGPGPRSGIPASFPSPQPPMAGPGGIEEE--DEEPAE 48
H. sapiens MSH4 QETPQSR--PSVQVVSASTCPGTSGAAGDRSSSSSSSLPCPAPNSRPAQGSYFGNKRAYAE 93
M. musculus MSH4 RWTPSRRDAPCGRTLASASRPSTEGAMADRSSSSSSSPAPAS----APGSSFGNKRSYAI 116
A. thaliana MSH4 -----
C. elegans MSH4 -----MYSNKS FQRRQRQOVAESRSEEKFSRSL 28
S. cerevisiae MSH4 YFNLRSAANSSNSISKPSTKKSIRNQKSPTNISSWALKKKTLQIAETT WENNEK DSTHSH 73

                                     ↓
S. cerevisiae MSH5 IVMCIDFSGGKLGCSILDYHTKTLKAFDQDYVVNKT----- 95
A. thaliana MSH5 VYMACIQHGRRVG-----VSYYDCSVR----- 34
C. elegans MSH5 TVLSLSFAQGM LGAAYYEQSSQLLKIMNDI SEDLEFRFLKRLID DVKPTLI IANRSQDLE 123
H. sapiens MSH5 IHLCVLWNSGYLG-----IAYYDTSDS----- 71
M. musculus MSH5 IHLCVLWSSGYLG-----IAYYDTSDS----- 70
H. sapiens MSH4 NTVASNFTFGASSSSARDTNYPQTLKPLSTGNPQRSYKSWTPQVGYSSSSS----- 147
M. musculus MSH4 HRAASSFPVGTSSSSARDTTYPHFTFRTPLSAGNPQRSYKSWTPQVGYSSSS----- 169
A. thaliana MSH4 -----MEDDGGERS----- 9
C. elegans MSH4 VRLNAQSLLDSSG-----NNTTTKNVN----- 50
S. cerevisiae MSH4 YLMTGSMASRTATS-----LSRYSTNASLLG----- 99

                                     ↓                                     ↓
S. cerevisiae MSH5 -----ISSHDLIDDADMSSNDISLLLGLLIMEANPTVCLV PARLEDWIFDYIKTKCDEIN 150
A. thaliana MSH5 -----QLHVLEFWEEDCSDFTLINMVKYQAKPSIIYASTKSEE--SFIAALQQNDGTD 85
C. elegans MSH5 FIKFLTTRYDPQEKIYEDGTTEEGTSED TVPTWSSSLAYSTDETTAEKEEKEEDEDDE 183
H. sapiens MSH5 -----TIHFMPDAPDHESL KLLQ RVLDEINPQSVVTSAKQDENMTRFLGKLASQEHREP 125
M. musculus MSH5 -----TIHFMPDAPDHESL KLLQ RVLDEINPQSVVTSAKQDEAMTRFLGKLASEEHREP 124
H. sapiens MSH4 -AISAHSPSVIVAVVEGRGLARGEIGMASIDLKNPQIILSQFADN-TTYAKVITKLKILS 205
M. musculus MSH4 -AVSAHSPSVIVAVVEGRGLARGEIGMASIDLKSPQIMLSQFADN-TTYAKVITKLQVLS 227
A. thaliana MSH4 -----SFVAGLIENR---AKEVGM AAFDLRSASLHLSQYIETSSSYQNTKTL LRFYD 58
C. elegans MSH4 -----SDVVIVMEGRGSC EGHIGIALHDTCFPEIHLCEFVDS-REYTTLKTMINVHE 102
S. cerevisiae MSH4 ----PSIDCVLCCIYEVPRDISTRIGLCIINCNTGQMYLSDFMDS-QIYIRVVHKLQIYQ 154

                                     ↑                                     ↑                                     ↑                                     ↑

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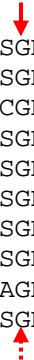

<i>S. cerevisiae</i>	MSH5	ASFLEKGI AIFQLVSS LKLSDEANILHDIK NKVDI SALKECLRKVETVIDFDTSRDTKT	421
<i>A. thaliana</i>	MSH5	LHVNKIFEVGVSESLREHMRRFNLDIIEKAGLCIST-ELDYVYELVIGVIDVTRSKERGY	364
<i>C. elegans</i>	MSH5	ECFVSTVNALVEILNIIRQTPISKEFPVESDLLREV---SEIAVIAGSIINFAESKIQGR	443
<i>H. sapiens</i>	MSH5	QVLYKTVYSALGLRDACRSLPQSIQLFRDIAQEFSD-DLHHIASLIGKVVDFEGSLAENR	392
<i>M. musculus</i>	MSH5	QVLYKTVYSALGLRDACRSLPQSIQLFQDIAQEFSD-DLHHIASLIGKVVDFEESLAENR	391
<i>H. sapiens</i>	MSH4	IYLKHTLELVDPLKIAMKNCNTPLLR-AYYGSLEDK-RFGIILEKIKTVINDDARYMKGK	479
<i>M. musculus</i>	MSH4	IYLKHTLELVEPLKVTLKNCSTPLLR-AYYGSLEDH-RFGLILDKIKTVINDDARYMKGK	501
<i>A. thaliana</i>	MSH4	ILLKTALDALPILAKVLKDAKCFLLANVYKVCEND-RYASIRKKIGEVIDDDVLHARVP	349
<i>C. elegans</i>	MSH4	IKLMHTLKVIQGI RTLLHSAKMKSNI LIEKTEFLKDPRFDQIMN ILVEKVDDSLLDGKKN	385
<i>S. cerevisiae</i>	MSH4	LLLKETLQSVKSLKDALNDQLIQSRLISETKKIFNND AIMEIEK LINS CINEDCVWASSA	433

<i>S. cerevisiae</i>	MSH5	LTINTG-VDNRLDECRNIYNHLEGILLDVARETQIFLLNTMPQEDCKTTKSLEKLVNAVY	480
<i>A. thaliana</i>	MSH5	QTLVKEGFCAELDEL RQIYEELPEFLQEVSAMELEHFPHLHKEK--LP-----PCIVY	415
<i>C. elegans</i>	MSH5	VTVMNG-IDEELDEIRD TYENMPMVLTAIAKQEEARLGLPPYSN-----VACVY	491
<i>H. sapiens</i>	MSH5	FTVLPN-IDPEIDEKRRMLGLPSFLTEVARKELNLD SR-----IPS-----CSVIY	439
<i>M. musculus</i>	MSH5	FTVLPN-IDPDIDAKRR LIGLPSFLTEVAQKELENLDSR-----IPS-----CSVIY	438
<i>H. sapiens</i>	MSH4	LNMR TQ-KCYAVRSNINEFLDIARRTYTEIVDDIAGMISQLG EKYS LP-----LRTSF	531
<i>M. musculus</i>	MSH4	LNMR TQ-KCYAVRSNISEFLDIARRTYTEIVDDIAGMIAQLAEKYS LP-----LRTSF	553
<i>A. thaliana</i>	MSH4	FVARTQ-QCFALKAGIDGFLDIARRTFCDTSEAIHNLASKYREEFNLPN-----LKL PF	402
<i>C. elegans</i>	MSH4	SLHLQNTKCYAIRHFVAVQLDLARQTYEEIIRNVEETGAREIAEYFHGNS----SVRLSF	441
<i>S. cerevisiae</i>	MSH4	IQLLNQ-RSYAVKSDSNGLLDVSRQIYKEVKEEFFREVEDLTAKNKIN-----LDHNY	485

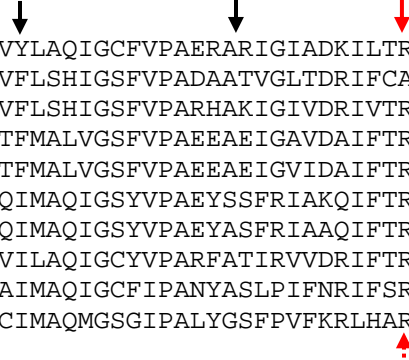
<i>S. cerevisiae</i>	MSH5	IPQLGYLV TIS-----VLMEPLLDGIPNLQWEEIFRSEN IYFKNGRVLELDETYGDIY G	535
<i>A. thaliana</i>	MSH5	IQQIGYLMCIFGEKLD ETALNRLTEFEFAFSMDMGETQR-FFYHTSKTREL DNLLGDIYH	474
<i>C. elegans</i>	MSH5	IPLVGFVLSVP-----RDYGVESQPDMTLLYSTHEDLRVRNATTSRLDDEFGDILM	542
<i>H. sapiens</i>	MSH5	IPLIGFLLSIP----RLPSMVEASDFEINGLDFMFLSE EKLHYRSARTKELDALLGDLHC	495
<i>M. musculus</i>	MSH5	IPLIGFLLSIP----RLPFMVEASDFEIEGLDFMFLSE DKLHYRSARTKELDTLLGDLHC	494
<i>H. sapiens</i>	MSH4	SSARGFFIQMT----TDCIALPSDQLPSEFIKISKVKNS-YSFTSADLIKMNERCQESLR	586
<i>M. musculus</i>	MSH4	SSSRGFFIQMT----TDCAALSSDQLPSEFIKISKVKNS-YSFTSADLIKMNERCQESLR	608
<i>A. thaliana</i>	MSH4	NNRQGFFFRIP----QKEVQG---KLPNKFTQVVKHGKN-IHCSSLELASLNV RNKSAAG	454
<i>C. elegans</i>	MSH4	SQSRGFHYTFV-----TRQAESVTIPRYFLDVFRNR TT-VTFNSRKVIAYNDRLEQVVA	494
<i>S. cerevisiae</i>	MSH4	DSARGFYLR IK----RQEF TDDVATLPDVFISRTIKKNY-IECTTLNI IKKNARLKEVME	540

<i>S. cerevisiae</i>	MSH5	AISDFEIEILFSLQE QILRRKTQLTAYNILLSELEILLSFAQVSAERN----YAEPQLVE	591
<i>A. thaliana</i>	MSH5	KILDMERAIIRDLLSHTLLFSAHLLKAVNFVAELDCILSLACVAHQNN----YVRPVLTV	530
<i>C. elegans</i>	MSH5	RLIDSQTAILTLKTRVMKKRSIIKLLSIASRIDVLI SFGLIAAQNG----WNC PALVD	598
<i>H. sapiens</i>	MSH5	EIRDQETLLMYQLQCQV LARA AVLTRVLDLASRLDVLLALASAARDY G----YSRPRYSP	551
<i>M. musculus</i>	MSH5	EIRDQETLLMYQLQCQV LARASV LTRVLDLASRLDVLLALASAARDY G----YSRPHYSP	550
<i>H. sapiens</i>	MSH4	EIYHMTYMIVCKLLSEIYEH IHCLYKLSDTVSM LDM LLS-FAHACTLS---DYVRPEFTD	642
<i>M. musculus</i>	MSH4	EIYHMTYMIVCKLLSEIYEH IHCLYKLSDTVSM LDM LLS-FAHACTLS---DYVRPEFTD	664
<i>A. thaliana</i>	MSH4	ECFIRTETCLEALMDA IREDISAL TLLAEVLC LLDMIVNSFAHTISTKPVDRYSRPELTD	514
<i>C. elegans</i>	MSH4	EMFLASDVIVCDMIEEMQPMIPVLYYAMDALSSIDFLCGLATYSDLRD----TCKPTFGP	550
<i>S. cerevisiae</i>	MSH4	EILLLSEETVDELLDKIATHISELFMIAEAVAILDLVCSFTY NLKENN----YTIPIFTN	596

<i>S. cerevisiae</i>	MSH5	DECILEI INGRHALYETFLDNYIPNSTMIDGGLFSELSWCEQNKGR IIVVTGANASGKSV	651
<i>A. thaliana</i>	MSH5	ES-LLDIRNGRHV LQEMAVDTFIPNDTEIN-----DNGRIHIITGPNYSGKSI	577
<i>C. elegans</i>	MSH5	EPVIEAVELYHPISV L VVKKSFVFNQVSSGR-----DGIKASIIITGPNACGKSV	647
<i>H. sapiens</i>	MSH5	QVLGVRIQNGRHPLMELCARTFVFNSTECGG-----DKGRVKVITGPNSSGKSI	600
<i>M. musculus</i>	MSH5	CIHGVRIRNGRHPLMELCARTFVFNSTDCGG-----DQGRVKVITGPNSSGKSI	599
<i>H. sapiens</i>	MSH4	T---LAIKQGWHPILEKISAEKPIANNTYVT-----EGSNFLIITGPNMSGKST	688
<i>M. musculus</i>	MSH4	T---LAIKQGWHPILEKISAEKPVANNTYIT-----EGSNVLIITGPNMSGKST	710
<i>A. thaliana</i>	MSH4	SGP-LAIDAGRHP ILESIHND-FVNSNIFMS-----EATNMLVVMGPNMSGKST	561
<i>C. elegans</i>	MSH4	S---FSISQGRHPILDWDDSEKTITNDTCLT-----RDRRFGIITGPNMAGKST	596
<i>S. cerevisiae</i>	MSH4	N---LLIRDSRHP LLEKVLKNFVPNTISSTK-----HSSSLQIITGCNMSGKSV	642



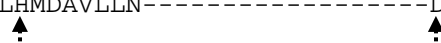
<i>S. cerevisiae</i>	MSH5	YLTQNGLIVYLAQIGCFVPAERARIGIADKILTRIRTQETVYK TQSSFL LDSQ-QMAKSL	710
<i>A. thaliana</i>	MSH5	YVKQVALIVFLSHIGSFVPADAATVGLTDRIFCAMG-SKFMTAEQSTFMIDLH-QVGMML	635
<i>C. elegans</i>	MSH5	YMKSIGIMVFLSHIGSFV PARHAKIGIVDRIVTRMFTVDSVL DGMSTFAKDVE-QVALAL	706
<i>H. sapiens</i>	MSH5	YLKQVGLITFMALVGSFVPAEEAEIGAVDAIFTRIHSCE S I S L G L S T F M I D L N Q Q V A K A V	660
<i>M. musculus</i>	MSH5	YLKQVGLITFMALVGSFVPAEEAEIGVIDAIFTRIHSCE S I S L G L S T F M I D L N Q V A K A V	658
<i>H. sapiens</i>	MSH4	YLKQIALCQIMAQIGSYVPAEYSSFRIAKQIFTRISTDDDIETNSSTFMKEMK-EIAYIL	747
<i>M. musculus</i>	MSH4	YLKQIALCQIMAQIGSYVPAEYASFRIAAQIFTRISTDDDIETNSSTFMKEMK-EIAYIL	769
<i>A. thaliana</i>	MSH4	YLQQVCLV VILAQIGCYV PARFATIRVVDRIFTRMGTM DNLESNSSTFMTEMR-ETAFIM	620
<i>C. elegans</i>	MSH4	YLKQTAQLA IMAQIGCFIPANYASLP I FN R I F SRM G H N D E L I R N K S A F A S E M S - D A A A I V	655
<i>S. cerevisiae</i>	MSH4	YLKQVALIC IMAQMGSGIPALYGSFPVFKRLHARVC-NDSMELTSSNFGFEMK-EMAYFL	700



<i>S. cerevisiae</i>	MSH5	SLATEKSLILIDEYGKGT DILDGPSLFGSIMLNMSKSEK--CPRI IACTHFHEL FNENVL	768
<i>A. thaliana</i>	MSH5	RQATSRSLCLLDEF GKGTLTEDGIGLLGGTISHFATCAEP--PRVVCTHLTELLNESCL	693
<i>C. elegans</i>	MSH5	RKATGNSLVI IDEF GKGTMTEVGLSLLASVMTYWMNRGADRCPHIFLSSH FHALPNYIPL	766
<i>H. sapiens</i>	MSH5	NNATAQSLV L IDEF GKG T N T V D G L A L L A A V L R H W L A R G P T - C P H I F V A T N F L S L V Q L Q L L	719
<i>M. musculus</i>	MSH5	NNATEHSLV L IDEF GKG T N S V D G L A L L A A V L R H W L A L G P S - C P H V F V A T N F L S L V Q L Q L L	717
<i>H. sapiens</i>	MSH4	HNANDKSLILIDELGRGTNTEEGIGICYAVCEYLLSLK----AFTLFATHFLELCHIDAL	803
<i>M. musculus</i>	MSH4	HNANDKSLILIDELGRGTNTEEGIGISYAVCEHLLSIK----AFTLFTTHFLELCHLDAL	825
<i>A. thaliana</i>	MSH4	QNV TNRSLIVMDELGRATSSSDGLAMAWSCCEYLLSLK----AYTVFATHMDSLAE LATI	676
<i>C. elegans</i>	MSH4	QYADKNSLVV LDELARSTSTEEGIAITYAICEKVLKLQ----SYTFLATHFLDIAALANY	711
<i>S. cerevisiae</i>	MSH4	DDINTETLLILDELGRGSSIADGFCVSLAVTEHLLRTEAT----VFLSTHFQDIPKIMSK	756



<i>S. cerevisiae</i>	MSH5	TENIKGIKHYCTDILISQKYNLLET AHVGEDHESEGITFLFKVKEGISKQS-FGIYCAKV	827
<i>A. thaliana</i>	MSH5	PVSEKIKFYTMSVLXPDTES-----ANMEEIVFLYRLIPGQTLLS-YGLHCALL	741
<i>C. elegans</i>	MSH5	ETNIATFLTFTVLR--EAG-----GKIKYLFRTMPGLVDCS-FALSVAKE	808
<i>H. sapiens</i>	MSH5	PQGPLVQYLTMETC--EDG-----NDLVFFYQVCEGVAKASHASHTAAQA	762
<i>M. musculus</i>	MSH5	PQGPLVQYLTMETC--EDG-----EDLVFFYQLCQGVASASHASHTAAQA	760
<i>H. sapiens</i>	MSH4	YPNVENMHFEVQHV--KNTS-----RNKEAILYTYKLSKGLTEEKNYGLKAAEV	850
<i>M. musculus</i>	MSH4	YLNVENMHFEVQHV--KNTS-----RNKDAILYTYKLSRGLTEEKNYGLKAAEA	872
<i>A. thaliana</i>	MSH4	YPNVKVLHFYVDIR--DNR-----LDFKFQLRDGTLHVPHYGLLLAEV	717
<i>C. elegans</i>	MSH4	SNAIDNYHFLPQTD-----ENSTKHKHLLRGQYRGPLYGFELVEL	751
<i>S. cerevisiae</i>	MSH4	KPAVSHLHMDAVLLN-----DNSVKMNYQLTQKSVAIENSGIRVVKK	798



↓

<i>S. cerevisiae</i>	MSH5	CGLSRDIVERA--EELSRMINRGDDVVQCGNLTEKEMR-----EFQKNQEIVK	874
<i>A. thaliana</i>	MSH5	AGVPEEVVKRA--AIVLDAFESNNNVDKLSLTKISS-----QDQAFKDAVD	785
<i>C. elegans</i>	MSH5	EGIPPPVIGRA--CRIYKALKAGTLLKEIKAEVSNDNEKQLVEDMDVVLADEDFMAAVE	866
<i>H. sapiens</i>	MSH5	G-LPDKLVARG--KEVSDLIRSGKPIKPKVDLLKKN-----QMENCQTLVD	805
<i>M. musculus</i>	MSH5	G-LPDPLIARG--KEVSDLIRSGKPIKATNELLRRN-----QMENCQALVD	803
<i>H. sapiens</i>	MSH4	SSLPPSIVLDA--KEITTQITRQILQNQRSTPEMER-----QRAVYHLATR	894
<i>M. musculus</i>	MSH4	SSLPPSIVLDA--RDITTQITRQILQNQRSSPEMDR-----QRAVYHLATR	916
<i>A. thaliana</i>	MSH4	AGLPSTVIDTA--RIITKRITDKENKRIELNCGKHH-----EIHRIYRVAQ	761
<i>C. elegans</i>	MSH4	STIPDEVIEHA--QSLATELRANVEDTERDYDSERRRIK-----VYMNHRFRECAE	800
<i>S. cerevisiae</i>	MSH4	IFNPDI IAEAYNIHSLLLKIAKARTENEDSNGVVDQKTIN-----QMKRIHNLVAILK	850

↓

<i>S. cerevisiae</i>	MSH5	KFLSWDLLDLETTTTSENLRRLKLNFLR-----	901
<i>A. thaliana</i>	MSH5	KFAELDISK---GDIHAFFQDIFTS-----	807
<i>C. elegans</i>	MSH5	SFVKRKKTSFCESSMRNVSEEIEKERSEASTPASKSRSTITARSNSVLSSRSMASVDQLS	926
<i>H. sapiens</i>	MSH5	KFMKLDLEDPNLD-LNVFMSQEVLPAAATSIL-----	835
<i>M. musculus</i>	MSH5	KFLKLDLEDPTLD-LDIFISQEVLPAAPTIL-----	833
<i>H. sapiens</i>	MSH4	LVQTARNSQLDPDSLRIYLSNLKKKYKEDFPRTEQVPEKTEE-----	936
<i>M. musculus</i>	MSH4	LVQAARNSQLEPDLRLRITYLSNLKKKYAGDFPRAVGLPEKTEE-----	958
<i>A. thaliana</i>	MSH4	RLICLKYSRQTEDSIRQALQNLNESFTEERL-----	792
<i>C. elegans</i>	MSH4	YFMDTHGEKWKEEKEAIDKMKALRKYLVDELAKIDSQEQMCQ-----	842
<i>S. cerevisiae</i>	MSH4	ECAGNEKEPLTLGKLKEINSDFIENFEE-----	878

<i>S. cerevisiae</i>	MSH5	-----	
<i>A. thaliana</i>	MSH5	-----	
<i>C. elegans</i>	MSH5	VLDALLPKKKKKVVTGSSMESSMSPDPFQEEDGTEGEEDQISAPVSRPTLPSVQKYASE	986
<i>H. sapiens</i>	MSH5	-----	
<i>M. musculus</i>	MSH5	-----	
<i>H. sapiens</i>	MSH4	-----	
<i>M. musculus</i>	MSH4	-----	
<i>A. thaliana</i>	MSH4	-----	
<i>C. elegans</i>	MSH4	-----	
<i>S. cerevisiae</i>	MSH4	-----	

<i>S. cerevisiae</i>	MSH5	-----	
<i>A. thaliana</i>	MSH5	-----	
<i>C. elegans</i>	MSH5	EEKQQSINSRHSFSTRTAIHIPTPIQMGEAGGVKRPRSTSTSSPGPSASKSVRTEVFKKT	1046
<i>H. sapiens</i>	MSH5	-----	
<i>M. musculus</i>	MSH5	-----	
<i>H. sapiens</i>	MSH4	-----	
<i>M. musculus</i>	MSH4	-----	
<i>A. thaliana</i>	MSH4	-----	
<i>C. elegans</i>	MSH4	-----	
<i>S. cerevisiae</i>	MSH4	-----	

<i>S. cerevisiae</i>	MSH5	-----	
<i>A. thaliana</i>	MSH5	-----	
<i>C. elegans</i>	MSH5	PNVKESQVLETPKQLSISFFLEPKFPSSEKDVISRVSERYLQSDPFKTPISDRRSQQSSR	1106
<i>H. sapiens</i>	MSH5	-----	
<i>M. musculus</i>	MSH5	-----	
<i>H. sapiens</i>	MSH4	-----	
<i>M. musculus</i>	MSH4	-----	
<i>A. thaliana</i>	MSH4	-----	
<i>C. elegans</i>	MSH4	-----	
<i>S. cerevisiae</i>	MSH4	-----	

S. cerevisiae MSH5 -----
A. thaliana MSH5 -----
C. elegans MSH5 HSTPKNRSMNQSLIQSARDTPHETIRSSNEVNPEFFNIFNFPDDSIILKSQDTYDPNVTPR 1166
H. sapiens MSH5 -----
M. musculus MSH5 -----
H. sapiens MSH4 -----
M. musculus MSH4 -----
A. thaliana MSH4 -----
C. elegans MSH4 -----
S. cerevisiae MSH4 -----

S. cerevisiae MSH5 -----
A. thaliana MSH5 -----
C. elegans MSH5 SSSRRELRPDVSHSQNSQFGEVFSSELGTQFSIFNSQQSFPGNSMGTTNPDCSIFDFFAN 1226
H. sapiens MSH5 -----
M. musculus MSH5 -----
H. sapiens MSH4 -----
M. musculus MSH4 -----
A. thaliana MSH4 -----
C. elegans MSH4 -----
S. cerevisiae MSH4 -----

S. cerevisiae MSH5 -----
A. thaliana MSH5 -----
C. elegans MSH5 SQDGEKKIDSTKTSMPIVNSDNFIFKTPEPRSSEKQRSLKKNKGQASNSSISPSLILGQ 1286
H. sapiens MSH5 -----
M. musculus MSH5 -----
H. sapiens MSH4 -----
M. musculus MSH4 -----
A. thaliana MSH4 -----
C. elegans MSH4 -----
S. cerevisiae MSH4 -----

S. cerevisiae MSH5 -----
A. thaliana MSH5 -----
C. elegans MSH5 LAFGDVDQTPRPRGDNPIEFQYDVVDDDDPIFEEKNC SAPVF EFLKSN DDEEDEF LKSF 1346
H. sapiens MSH5 -----
M. musculus MSH5 -----
H. sapiens MSH4 -----
M. musculus MSH4 -----
A. thaliana MSH4 -----
C. elegans MSH4 -----
S. cerevisiae MSH4 -----

S. cerevisiae MSH5 -----
A. thaliana MSH5 -----
C. elegans MSH5 LETEGSLHIDTSADETIDRSKRS 1369
H. sapiens MSH5 -----
M. musculus MSH5 -----
H. sapiens MSH4 -----
M. musculus MSH4 -----
A. thaliana MSH4 -----
C. elegans MSH4 -----
S. cerevisiae MSH4 -----