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*          *          *          *          *
220          240          260          280          300
Arabidopsis_thaliana_Spoll-2 : MRSQDVALLRCSRYSLGIMASRRGLAERLFLQE---PGKEAVD---CSACGSSGFAITGDLNL----- : 172
Oryza_sativa_Spoll-2 : NQTVDVVSILRCTLRQSLGIMASRRGLAERLVLVQ---PEEEHVD---CSILGPGSGHATGDLNV----- : 174
Zea_mays_Spoll-2 : NQAVQDVVSLRCTLRQSLGIMASRRGLAERLVLVHE---PDGEQID---CSILGASGHAITGDLNL----- : 171
Thalassiosira_pseudonana_Spoll-2 : GGTLDVAKILNVPBRALGLSASPKGELEERL---SVYME-----LS---CLVNGFADGGVETKVTSK----- : 101
Phaeodactylum_tricornutum_Spoll-2 : SAAQDITAILLQVPLRSSLGIMASRRGLAERL---VQLVS---NQGVVLD---GRHLQSHGAPISGEGWLPD--- : 163
Fragilariopsis_cylindrus_Spoll-2 : EKAHWDLVSLHNLPSRQSLGLVSPKGFCCS---LDVYN---GHTNEIKFNGRELDTHGMAITPSTYDNDYTTNNKPTNDRDPMDDDDDNNGNGN : 227
Pseudo-nitzschia_multiseriata_Spoll-2 : EKAHWDLVSLGLPSPRQSLGLVSPKGFCCS---LDVYN---AHTGELN---NNSSNHIR----- : 80
Pseudo-nitzschia_multistriata_Spoll-2 : EKAHWDLVSLGLPSPRQSLGLVSPKGFCCS---LDVYN---ARTGEIRFNGRDLDAHGMAITPSTYDSSYDFNFYSYLCKDDKXA---DDPLPIQ : 207
Seminavis_robusta_Spoll-2 : DAAVDEAANILRVPBRALGLSASPKGELEERL---IQILR---EGRIAMD---GKALSSIQGAPITQEWLSSPTQRDFTIDCLVDAQAENEDDSSTSN : 173
Ectocarpus_siliculosus_Spoll-2 : NDALRLCCSLRQVPLRSSLGIMASRRGLAERL---ISIRG---EGFEDWQ---DPRSTGGSSGLAITSDDL----- : 94
Homo_sapiens_Spoll : DNIINDISCVLKVSRSLHILASRGLAENL---LRYIE---EDGTVN---CTCGATAVAFNSIQG----- : 163
Mus_musculus_Spoll : SAAIDDISCVLKVPLRSSLGIMASRRGLAENL---LRYME---EDGTRVQ---CTCSATATAFPTNIQG----- : 163
Xenopus_(Silurana)_tropicalis_Spoll : DNIINDISCVLKVSRSLHILASRGLAENL---LRYME---EDGTRVQ---CTCSATATAFPTNIQG----- : 163
Danio_riero_Spoll : SIIWDDISCVLKVPLRSSLHILASRGLAENL---LCYLE---EDGTVN---CNSSSTAVSISNVNG----- : 163
Saccharomyces_cereviceae_Spoll : VQWIDVIRFNFKLSPKRSINIPAKQGLVYSEFPFDIYDNLITCENEPKQ---KQTIFFPKKPIPFQD----- : 171
Schizosaccharomyces_pombe_Spoll : DELGDISNTLFGCSRYNINVEASAKGLVYSEF---IHIAL---ENGVTVT---ATKPLISHHR----- : 155
Cryptococcus_neoformans_Spoll : KIKIDDLVATAGLRIRDFEVCASAKGLVYSEF---SVIRY---RTGDELI---LSATRANVDPAEK----- : 197
Candida_albicans_Spoll : RFLGQVVERGLGSLCDDNIPHPQKGLVYED---YFQ---ELSKAPEPILIPINYKFFNTK----- : 136
Kluyveromyces_lactis_Spoll : EMLFQRLEAIFNVEKLFNFVSKQGLVYSG---PRLQI---GSQLFHAECQVLPYDQG----- : 156
Neurospora_crassa_Spoll : DDMIDNLAFTLGVGRNDINVAKGLVAGQ---VELIM---CAESSD----- : 143
Arabidopsis_thaliana_Spoll-1 : DRANGDICTILFGQCSRYNINVSNGELVMEW---LRF---EAGRKF---CLNSLNTAYPPLVLEE----- : 162
Oryza_sativa_Spoll-1 : DRANNDICVLFKCSRYNINVPVAKGLVMEW---LRF---EAGEKVV---CVTNVNAAFSPVSTEA----- : 167
Zea_mays_Spoll-1 : DRANNDICVLFKCSRYNINVPVAKGLVMEW---LRF---EAGEKVV---CVTSVNAAFSPVDIEA----- : 167
Arabidopsis_thaliana_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Oryza_sativa_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Zea_mays_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Thalassiosira_pseudonana_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Phaeodactylum_tricornutum_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Fragilariopsis_cylindrus_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Pseudo-nitzschia_multiseriata_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Pseudo-nitzschia_multistriata_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Seminavis_robusta_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Ectocarpus_siliculosus_Spoll-3/Top_VIA : DAVDDVSCVIGCTRSSLNVAASRGLVVERL---LIF---DNGDM---CTKMGVGGKAPPNIDR----- : 161
Thermococcus_gammatolerans_Top_VI : DPEIDLERMLGVLREELHITADRGLVYED---LVI---DGEDEFN---ASKLGGSGWAPGTVEH----- : 169
Sulfolobus_acidocaldarius_Top_VI : DSVVDIEVFTSLLREDMLISKEKGLVYED---LVI---SGNDVLD---LSKMGHGAYSIEPTPDL----- : 176

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320          340          360          380          400
Arabidopsis_thaliana_Spoll-2 : LDNTIMRTDARVILVVEKDATE---RLVE---DRVFNHI-----PCVITAKGVPDIAIRFFHRRMSTTF--PDLPFLVLDVNNAGHAIIC : 252
Oryza_sativa_Spoll-2 : LSKILFSSDARVILVVEKDATE---RLAE---DRVYSHL-----PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 254
Zea_mays_Spoll-2 : LSKINLSSGSRVILVVEKDATE---RLAE---DRVYNDL-----PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 251
Thalassiosira_pseudonana_Spoll-2 : ---DKKVVIVVEKEGVYV---RLSE---ERIFDDF-----PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 172
Phaeodactylum_tricornutum_Spoll-2 : TRDFTIHSACATCIVLVEKEGVYV---RLVE---DRVFDFF-----PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 244
Fragilariopsis_cylindrus_Spoll-2 : GNDNIRIESDARCVLVEKEGVYV---RLSE---DKFFFLY-----LPCLVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 308
Pseudo-nitzschia_multiseriata_Spoll-2 : TES---DAKCVLVEKEGVYV---RLSE---DKFFFLY-----FPCLVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 155
Pseudo-nitzschia_multistriata_Spoll-2 : SSGCIRIESDARCVLVEKEGVYV---RLSE---DKFFFLY-----FPCLVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 288
Seminavis_robusta_Spoll-2 : TQPAERR---RKKCVLVEKEGVYV---RLAE---DRIFEKY-----PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 251
Ectocarpus_siliculosus_Spoll-2 : TRPELKS---DARVILVVEKDATE---RMVE---DGYDRANVSTLHLYLRITPSVLTGCCRPELAVACIYRLEAEAL---DLPVLGLVDNNEGHSFL : 184
Homo_sapiens_Spoll : TRNIVT---DAKCVLVEKDATE---RLLD---DNFCNKL-----SPCIVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 241
Mus_musculus_Spoll : MQHLIT---DAKCVLVEKDATE---RLLD---DNFCRSM-----SPCIVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 241
Xenopus_(Silurana)_tropicalis_Spoll : TRHIST---DAKCVLVEKDATE---RLLD---DNFCARS-----GPCVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Danio_riero_Spoll : TRNIVS---DAKCVLVEKDATE---RLLD---DNFCARL-----SPCIVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 241
Saccharomyces_cereviceae_Spoll : DAVIKLGTSMCNVIVVEKEAVT---KLVN---NYHKLST---NTVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 254
Schizosaccharomyces_pombe_Spoll : TSSITS---TKKVVIVVEKEAVT---TTR---EALA-----DTVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 230
Cryptococcus_neoformans_Spoll : IDVTEAPNGLDVLVVEKDATE---SAGC---AGILQDE---RIGHGLITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 280
Candida_albicans_Spoll : ITQIKV---EKVIVVVEKDATEVQCLCTHRLQ---HNINRF---LIVTAKGVSINLRLREITWQNE---NCKFIGFSSDVGKLNHYW : 215
Kluyveromyces_lactis_Spoll : ---EMIVQONQQLKVIIVVEKDATE---QIIQCQEMIKDW-----HIVTAKGVSINLRLREITWQNE---NCKFIGFSSDVGKLNHYW : 235
Neurospora_crassa_Spoll : ---SGKVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 184
Arabidopsis_thaliana_Spoll-1 : VEDIVS---LAEVILVVEKEVTFQ---RLAN---DMFCKTN---RCHVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 239
Oryza_sativa_Spoll-1 : IKDIVS---VADVILVVEKEVTFQ---RLAN---DKFCERN---RCHVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 244
Zea_mays_Spoll-1 : IKDIVS---VHMVILVVEKEVTFQ---RLAN---DKFCERN---RCHVITGKGPDDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 244
Arabidopsis_thaliana_Spoll-3/Top_VIA : VGDVQS---DAMFILLVVEKDATE---RLAE---DRFYNRF---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Oryza_sativa_Spoll-3/Top_VIA : VSGIES---DALFILLVVEKDATE---RLAE---DRFYNRF---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Zea_mays_Spoll-3/Top_VIA : VSGIES---DALFILLVVEKDATE---RLAE---DRFYNRF---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Thalassiosira_pseudonana_Spoll-3/Top_VIA : IENIQS---DAEFILLVVEKEAAM---RMAE---DRFYQRY---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Phaeodactylum_tricornutum_Spoll-3/Top_VIA : IENIAS---DAEFILLVVEKEAAM---RMAE---DRFYHRY---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Fragilariopsis_cylindrus_Spoll-3/Top_VIA : IENIRS---DAEFILLVVEKEAAM---RMAE---DRFYNRY---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Pseudo-nitzschia_multiseriata_Spoll-3/Top_VIA : IENITS---DAEFILLVVEKEAAM---RMAE---DRFYHRY---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Pseudo-nitzschia_multistriata_Spoll-3/Top_VIA : IENIES---DAEFILLVVEKEAAM---RMAE---DRFYHRY---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Seminavis_robusta_Spoll-3/Top_VIA : IENIVS---DAEFILLVVEKEAAM---RLAE---DRFYNRY---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Ectocarpus_siliculosus_Spoll-3/Top_VIA : ITNIRS---DADFILLVVEKEAAM---RMAE---DRFYQRY---PCVITAKGVPDIAIRFFHRRSQTY--PNMPEFALVDNNAGHAIIC : 238
Thermococcus_gammatolerans_Top_VI : IQPPEI---NVDVILVVEKDATE---RLIE---EKFPKKE---NALVITAKGVSINLRLREITWQNE---NCKFIGFSSDVGKLNHYW : 246
Sulfolobus_acidocaldarius_Top_VI : IDFDI---NAEVLVVEKDATEVQ---QHR---AGEWKEY---KALVITAKGVSINLRLREITWQNE---NCKFIGFSSDVGKLNHYW : 253

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*          620          *          640          *          660          *
Arabidopsis_thaliana_Spoll-2 : ---VQTGRKAEIQAAL---YCHG--YNYLIG---KVVATKI-----VQGGKYL : 355
Oryza_sativa_Spoll-2       : ---LETGKRKAEIQAAL---YSHG--FDPLG-----KVVARKI-----VQGGDYI : 357
Zea_mays_Spoll-2          : ---VERGKRADIEQAAL---YSHG--FDPLG-----KVVARKI-----VQGGDYI : 354
Thalassiosira_pseudonana_Spoll-2 : ---KESGKRVLEQAAL---YWLG--SDVMS-----QVVYNAI-----NWV : 272
Phaeodactylum_tricornutum_Spoll-2 : ---LKNGYKMELEQAAL---NWLG--MDFIT-----KVVGDIFHYQDRAGHGHE---GNSCWV : 378
Fragilariopsis_cylindrus_Spoll-2 : ---YK--YKVELEQAAL---HWKG--MDVMS-----KVVYETLLGHEKKHEEESVRRRRRRRQSDSES : 462
Pseudo-nitzschia_multiseriata_Spoll-2 : ---RNVKVELEQAAL---HWKG--SDVLC-----QVV : 262
Pseudo-nitzschia_multistriata_Spoll-2 : ---RK--YKVELEQAAL---HWKG--ADVLC-----QVVYNAI-----LSEYER : 434
Seminavis_robusta_Spoll-2 : ---QENGYRVLEQAAL---NWLG--MDVMS-----QVVHGAI-----EGGEQL : 393
Ectocarpus_siliculosus_Spoll-2 : PSLATEQSMYLVVSLI---SKTA--FSLFL---MQIFPLRLVY-----FLSSRI : 329
Homo_sapiens_Spoll        : ---ADSKMKAEIQAAL---TFLS--SDVLS-----RVVLPNKI-----KFGGWI : 350
Mus_musculus_Spoll        : ---ADSKMKAEIQAAL---TLLS--SDVLS-----RVVLPNKI-----RFGGWI : 350
Xenopus_(Silurana)_tropicalis_Spoll : ---RSSSLDCPCNCM---AW-----PPTI-----RFREVI : 309
Danio_rerio_Spoll         : ---QNLKRRKAEIQAAL---ASIA--PHFIT-----RVVLPNKI-----RYGGWI : 350
Saccharomyces_cereviceae_Spoll : ---LFFQKRAEIQAL---DARI--FEMK-----KVV : 354
Schizosaccharomyces_pombe_Spoll : ---LFIQKRAEIQAL---LEPS-----KVVKGLADAD-----KSGKHS : 334
Cryptococcus_neoformans_Spoll : ---LHLHRKAEIQAAL---IASSWSS---DHVGSNGSGDREGDRQPIEDVE-----RLINYI : 403
Candida_albicans_Spoll    : ---LYLFRKAEINNV---QANNANQSYVN-----YVWSKTL-----GTPSYI : 308
Kluyveromyces_lactis_Spoll : ---LFFQRKAEINNV---NNGNVQQFEK-----YVYSRI-----H---- : 341
Neurospora_crassa_Spoll   : ---LMLNIRKAEIQAAL---DDFDITNVID-----ERLIRKHSV-----DVNSH- : 346
Arabidopsis_thaliana_Spoll-1 : ---LKRGVKVEIQAAL---SVHS--LSFLS-----EVVLPKRI-----RREVSS : 349
Oryza_sativa_Spoll-1      : ---LQKGVKVEIQAAL---SACS--ISFLS-----EVLIPKRI-----KQGRHI : 354
Zea_mays_Spoll-1         : ---LQKGVKVEIQAAL---SANS--ISFLS-----EVLIPKRI-----KQGRHI : 354
Arabidopsis_thaliana_Spoll-3/Top_VIA : ---VKTQKRAEIQAL---SSFG--FQVLT-----EVLPLKLI-----QQQDWL : 347
Oryza_sativa_Spoll-3/Top_VIA : ---LRTQKRAEIQAL---SSFG--FQVLT-----EVLPLKLI-----QQQDWI : 347
Zea_mays_Spoll-3/Top_VIA : ---LRTQKRAEIQAL---SSFG--FQVLT-----EVLPLKLI-----QQQDWI : 347
Thalassiosira_pseudonana_Spoll-3/Top_VIA : ---VKTQKRAEIQAL---SSFG--FQVLT-----EVLPLKLI-----KEGDWI : 347
Phaeodactylum_tricornutum_Spoll-3/Top_VIA : ---VKTQKRAEIQAL---SSFG--FQVLT-----EVLPLKLI-----KEGDWI : 347
Fragilariopsis_cylindrus_Spoll-3/Top_VIA : ---IKTKKRAEIQAL---SSFG--FQVIT-----EVLPLKLI-----REGDWI : 347
Pseudo-nitzschia_multiseriata_Spoll-3/Top_VIA : ---VKTQKRAEIQAL---SSFG--FQVIT-----EVLPLKLI-----REGDWI : 347
Pseudo-nitzschia_multistriata_Spoll-3/Top_VIA : ---VKTQKRAEIQAL---SSFG--FQVIT-----EVLPLKLI-----KEGDWI : 347
Seminavis_robusta_Spoll-3/Top_VIA : ---VKTQKRAEIQAL---SSFG--FQVIT-----EVLPLKLI-----REGDWI : 347
Ectocarpus_siliculosus_Spoll-3/Top_VIA : ---IKSKKRAEIQAL---SAFG--FQVLT-----QVNLPEKI-----QNGDVI : 347
Thermococcus_gammatolerans_Top_VI : ---LKWGVREIQAAL---ANKS--LEFVA-----KVVLPKLI-----NSGDLL : 363
Sulfolobus_acidocaldarius_Top_VI : ---LDKSKRAEIQAL---ASKG--LRFLA-----FQVLPKLI-----KNSDFI : 370

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