

Figure 1S – Formin Alignment with Primers

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|-------|-----|--|-----|
| DIA1 | 1 | ME-----PPGGSLGPG---RGTDRKK---KGRSPDELPSAGGDGGKSK---KFTLKRMLADELERFTSMRI | 57 |
| DIA2 | 1 | MERHQPRLLHHPAQGSAAGTPYPSSASLRGCRESKMPRRKGPQHPPPSGPEEPGEKRPKPHLNIRTLTDDMLDKFASIRI | 80 |
| DIA3 | 1 | ME--QPGA--AASGAGGSEEPG----GGRSNK--RSAGNR-----AANEETKKNPKLNIQIKTLADDVDRDRITSFRK | 64 |
| DAAM1 | | -----M | |
| DAAM2 | | -----M | |
| FRL1 | | ----- | |
| FRL2 | | ----- | |
| FRL3 | | ----- | |
| WHIF1 | | ----- | |
| INF1 | | ----- | |
| FHOD1 | | -----M | |
| FHOD3 | | ----- | |
| DELPH | | ----- | |
| FMN1 | | ----- | |
| FMN2 | | ----- | |
| | | | |
| DIA1 | 58 | K-KEKEKPNSAH-RNSSASYGDDPTAQ-----SLQDVSDEQVVLVLFQMLLDMNLNEEKQQPLREKDI I | 119 |
| DIA2 | 81 | PGSKKERPPLPN-LKTAFASDDCSAAPLEM-----MENFPKPLSENELELEFEKMMEDMNLNEDKKAPLREKDFS | 149 |
| DIA3 | 65 | STVKKEKPLIQHPIDSQVAMSEFPAAQ-PL-----YDERSLNLSEKEVLDLFEKMMEDMNLNEEKKAPLRNKDFT | 133 |
| DAAM1 | 2 | APRRKGGRGISF-IFCCFRNNDHPEITYRLRNDNFALQTMEPALPMPVVEELDVMFSELVDELDTDKHREAMFALPAE | 80 |
| DAAM2 | 2 | APRRKSHHGLGF-L-CCFGSDIPEINLR----DNHPLQFMFESSPI PNAEELNIRFAELVDELDTDKNREAMFALPPE | 75 |
| FRL1 | 1 | -----MGNAGSAEQPAGPAAP---PPKQPAPP-KQMPAAGELEERFNALNCMNLPPDKVQLLSQYDNE | 62 |
| FRL2 | 1 | -----MGNAGSMDSQQDFRAH----NVPL-----KLPMPPEPGELEERFAIVLNAMNLPPDKARLLRQYDNE | 58 |
| FRL3 | 1 | -----MGNLESAEGVPGE--PP---SVPLLLPPGKMPPEPCELEERFALVLSMNLPPDKARLLRQYDNE | 61 |
| WHIF1 | 1 | -----MSVKEGAQ | 8 |
| INF1 | | ----- | |
| FHOD1 | 2 | AGGEDRGDGEVPSVVTVRVQYLEDTPDFACAN-FPEP-----RRAPTCSLD-----GALPLGAQIPAVHRLLGAP | 65 |
| FHOD3 | 1 | -----MATLACRVQFLDDTDPFNSTN-FPEP-----SRPPLFTFR-----EDLALGTQLAGVHRLQAP | 53 |
| DELPH | 1 | -----MATTATPATNQG-WPEDFGFRLGGSGPCFVLEVAKGSSAHAGGLRPGDQILEVEGLAVGG | 59 |
| FMN1 | | ----- | |
| FMN2 | | ----- | |
| | | | |
| DIA1 | 120 | IKREMVSQYLYTSKAGMSQKESK---SAMMYIQELRSGLRDMPLLS---C-----LE-SLRV | 170 |
| DIA2 | 150 | IKKEMVMQYINTASKTGLKRSRQ---ISPQEFHELKMGSADELRVT---C-----LE-SLRV | 201 |
| DIA3 | 134 | TKREMVVQYISATAKSGGLKNSKHECTLSSQEVHELRSGISDEKLLN---C-----LE-SLRV | 188 |
| DAAM1 | 81 | KKWQIYCSKKKQEE-NKGATSWP-----EFYIDQLNSMAARKSLLA---LE-----KEEEEEERSKTIE-SLKT | 139 |
| DAAM2 | 76 | KKWQIYCSKKKEQEDPNKLATSWP-----DYIIDRINSMAAMQSLYA---FD-----EETEEMRNQVVE-DLKT | 135 |
| FRL1 | 63 | KKWELICQERFQVK-----NP-----PAAIYQKLSYVDTGGVSR--KVAADWMSNLGFKRRVQESTQVLR-ELET | 126 |
| FRL2 | 59 | KKWELICQERFQVK-----NP-----PHTYIQKLGYLDPVAVTRK--K-----FRRRVQESTQVLR-ELEI | 112 |
| FRL3 | 62 | KKWDLICQERFQVK-----NP-----PHTYIQKLSQFLDPSVTRK--K-----FRRRVQESTQVLR-ELEI | 115 |
| WHIF1 | 9 | RKWAALKEKLGPDSDPTEANLES-----ADPELCIR--LLQMPSVVN-----YS-GLRK | 55 |
| INF1 | | ----- | |
| FHOD1 | 66 | LKLEDICALQVSPSGYYLDELSELEEQREMLEGFYEEISKGRKPTLILRTQLSVRVNAILEKLYSSSGPELRRSLF-SLK- | 143 |
| FHOD3 | 54 | HKLDDCTLQLSHNGAYLDLEATLAEQRDELEGFQDDAGRGKHSIILRTQLSVRVHACIEKLYNSSGRDLRRALF-SLK- | 131 |
| DELPH | 60 | LSRER-LVRLARRCPRVPPSLGVLPA PD--GGPGPGSGPAAPTTLVLRAPRCGRGLALGRELLRLAGKRKRPDAVHRERR- | 134 |
| FMN1 | | ----- | |
| FMN2 | | ----- | |
| | | | |
| DIA1 | 171 | SLNNNPVSWVQTFGA-E--GLASLLDILKRLHDEKEETAGSYDSRNKHE----- | 216 |
| DIA2 | 202 | SLTSNPVSWVESFGH-E--GLGLLLDILEKLI SGKIQE--KVVKKNQHK----- | 245 |
| DIA3 | 189 | SLTSNPVSWVNNFGH-E--GLGLLLDELEKLLDKKQE--NIDKKNQYK----- | 232 |
| DAAM1 | 140 | ALRTKPMRFVTRFIDL--GLSCILNFLKTM DYETSES-----RIHTS----- | 180 |
| DAAM2 | 136 | ALRTQPMRFVTRFIELE--GLTCLLNFLRSM DHATCES-----RIHTS----- | 176 |
| FRL1 | 127 | SLRTNHIGWVQEFVFLNEENRGLDVLLEYLAFAQCSVTYDMESTDNGASNS-EKNKPLEQSVEDLSKGPSSVP-----K | 198 |
| FRL2 | 113 | SLRTNHIGWVREFLNEENKGLDVLVEYLSFAQYAVTFDFESVESTVESVDKSKPWSRSIEDLHRGNSLSPVGNVSRS | 192 |
| FRL3 | 116 | SLRTNHIGWVREFLNDENKGLDVLVDYLSFAQCSVMFDFEGLESDDGAFDKLRSWSRSIEDLQPPSALSAPFTNSLARS | 195 |
| WHIF1 | 56 | RLEGSDDGWMVQFLEQS--GLDLLLEALARLSGRGVARI--SDALLQLT----- | 100 |
| INF1 | | ----- | |
| FHOD1 | 144 | QIFQEDKDLVPEFVHSE--GLSCLIRVGAAADHNYQSY----- | 179 |
| FHOD3 | 132 | QIFQDDKDLVHEFVVAE--GLTCLIKVGAEADQNYQNY----- | 167 |
| DELPH | 135 | RKAQEF SRKVD EILGDQ--PTA-----KEQ----- | 157 |
| FMN1 | | ----- | |
| FMN2 | | ----- | |

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|-------|-----|---|-----|
| DIA1 | 217 | -----IIRCLKAFMNNKFGIKTMLETEEGILLVLRAMPVAVPMMIDAAKLLSA | 265 |
| DIA2 | 246 | -----VIQCLKALMNTQYGLERIMSEERSLSLLAKAVDPRHPNMMDTVVKLLSA | 294 |
| DIA3 | 233 | -----LIQCLKAFMNNKFLQRIILGDEERSLLLRADIPKQPNMTEIVKILSA | 281 |
| DAAM1 | 181 | -----LIGCIKALMNNNSQGRAHVLAHSESINVIQAQSLSTENIKTKVAVLEILGA | 229 |
| DAAM2 | 177 | -----LIGCIKALMNNNSQGRAHVLAQPEAISTIAQSLRTENSKTKVAVLEILGA | 225 |
| FRL1 | 199 | SRHLTIKLTPAHSRKALRNSRIVSQKDDVHVCIMCLRAIMNYQSGFSLVMNHPACVNEIALSLNNKNPRTKALVLELLAA | 278 |
| FRL2 | 193 | GRHSALRYNTLPSRRTLKNSRSLVSKDDVHVCIMCLRAIMNYQYGFNMVMSHPHAVNEIALSLNNKNPRTKALVLELLAA | 272 |
| FRL3 | 196 | ARQSVLRYSTLPGRRALKNSRSLVSKDDVHVCILCLRAIMNYQYGFNLVMSHPHAVNEIALSLNNKNPRTKALVLELLAA | 275 |
| WHIF1 | 101 | -----CVSCVRAVMNSRQGIEYILSNQGYVRQLSQALDTSNMVVKQVFEELAA | 149 |
| INF1 | | ----- | |
| FHOD1 | 180 | -----ILRALGQLMLFVDGMLGVVAHSDTIQWLYTLCASLSRLVVKTKALKLLLV | 228 |
| FHOD3 | 168 | -----ILRALGQIMLYVDGMNGVINRNETIQWLYTLIGSKFRLVVKTKALKLLLV | 216 |
| DELPH | 158 | -----VFAALKQF-----AAEQRVDDLVTTLT--ALPREACGPLLDNLRI | 196 |
| FMN1 | | ----- | |
| FMN2 | | ----- | |
| | | | |
| DIA1 | 266 | LCILP---QPEDMNERVLEAMTE-RAEMDEVERFQPLLDGL----KSGTTIALKVGCLQLINALI---TPAEELDFRVH | 333 |
| DIA2 | 295 | VCIVG---E-ESILEEVLEALTS-AGEEKKIDRFFCIVEGL----R-HNSVQLQVACMQQLINALV---TSPDDLDFRLH | 360 |
| DIA3 | 282 | ICIVG---E-ENILDKLLGAITT-AAERNRERFSPIVEGL----ENQEALQVACMQFINALV---TSPYELDFRIH | 348 |
| DAAM1 | 230 | VCLVP---G---GHKKVLQAMLHYQKYASERTRFQTLINDLDKSTGRYRDEVSLKTAIMSFINAVLSGAGVESLDFRLH | 303 |
| DAAM2 | 226 | VCLVP---G---GHKKVLQAMLHYQVYAAERTRFQTLNELDRSLGRYRDEVNLKTAIMSFINAVLNAGAGEDNLEFRLH | 299 |
| FRL1 | 279 | VCLVR---G---GHDIIILAAFDNFKEVCGEQHREKLEMEYFR----NEDSNIDFMVACMQFINIVV---HSVENMNFVVF | 345 |
| FRL2 | 273 | VCLVR---G---GHEIILSAFDNFKEVCGEKQRFKLEMEHFR----NEDSNIDFMVASMCFINIVV---HSVEDMNFVVF | 339 |
| FRL3 | 276 | VCLVR---G---GHEIILAAFDNFKEVCKELHREKLEMEYFR----NEDSNIDFMVACMQFINIVV---HSVEDMNFVVF | 342 |
| WHIF1 | 150 | LCIYS---P---EGHVLTLDALDHYKTVCSSQYRFSIVMNELS-----GSDNVPYVVTLLSVINAVI---LGPEDLRARTQ | 216 |
| INF1 | | ----- | |
| FHOD1 | 229 | FV-----EYSENNAPLFRIVANVSASTTGAPPWANLVSILEE---KNGADPELLVYTVTLINKTL---AALPDQDSFYD | 296 |
| FHOD3 | 217 | FV-----EYSESNAPLLIQAVTAVDTKRGVKPWSNIMEILEE---KDGVDTELLVYAMTLVNKTL---SGLPDQDTFYD | 284 |
| DELPH | 197 | FIPKXHRARFDEVVSQGLLGLKCRARRAQAQ---RLRRS---RSEERPERL---LVSTRA---SAPPRRP--- | 255 |
| FMN1 | 1 | -----MENVDNSLDGSDVSEPAKPE---AGLEVAQSILS | 31 |
| FMN2 | 1 | -----MGNQDGKLRKRSAGDALHEGG---GGAEDALGPRD | 31 |
| | | | |
| DIA1 | 334 | IRSELMRLGLH-QVLQDLREIE-----NEDMRVQLNVFDEQG-EEDSYDLKGRLLDDI- | 383 |
| DIA2 | 361 | IRNEFMRCGLK-EILPNLKCIC-----NDGLDIQLKVFDEHK-EEDLFELSHRLEDI- | 410 |
| DIA3 | 349 | LRNEFLRSLGK-TMLPDLKEKE-----NDELDIQLKVFDEHK-EEDLTELSHRLNDI- | 398 |
| DAAM1 | 304 | LYEFLMLGIQ-PVIDKLRHE-----NSTLDRHLDFEMLR-NEDLEFEAKRFELV- | 353 |
| DAAM2 | 300 | LYEFLMLGIQ-PVIDKLRQHE-----NAILDKHLDFEMLR-NEDDLELARRFDMV- | 349 |
| FRL1 | 346 | LQYEFTHLGLD-LYLERLRLTE-----SDKLQVQIQAY----- | 377 |
| FRL2 | 340 | LQYEFTHLGLD-EYLDKLRKHE-----SDKLQVQIQAY----- | 371 |
| FRL3 | 343 | LQYEFTHLGLD-EFLQKSRHTE-----SEKLQVQIQAY----- | 374 |
| WHIF1 | 217 | LRNEFIGLQLL-DVLARLRDLE-----DADLLIQLEAFEEAK-AEDEEELLR--VSG- | 264 |
| INF1 | | ----- | |
| FHOD1 | 297 | VTDALEQQGMEALVQRHLGTAG---TDVDLRTQLVLYENAL-----KLEDG- | 339 |
| FHOD3 | 285 | VVDCLLEELGIAAVSQRHLNKKG-----TDLDLVEQLNIYEVAL-----RHEDG- | 327 |
| DELPH | 256 | -----DEPPPRASLLVGGG-----A----- | 271 |
| FMN1 | 32 | KFSMKSLFG---FTSKLESVNPEEEDAVLKAHSLVDNPTSQQDDSSNGLDQAEAGSRVSPDLGNDEKIASVETESEGS | 107 |
| FMN2 | 32 | VEATKKGSG---GKKALGKHGKGGGGGGGGESGKKKSKSDSRASVFSNLRIRKNLSKGGKAGGSREDVLDLSQLQGTG- | 106 |
| | | | |
| DIA1 | 384 | -----RMEMDDFN----- | 391 |
| DIA2 | 411 | -----RAELDEAY----- | 418 |
| DIA3 | 399 | -----RAEMDDMN----- | 406 |
| DAAM1 | 354 | -----HIDTKSAT----- | 361 |
| DAAM2 | 350 | -----HIDTKSAS----- | 357 |
| FRL1 | 378 | -----LDNIF----- | 382 |
| FRL2 | 372 | -----LDNVF----- | 376 |
| FRL3 | 375 | -----LDNVF----- | 379 |
| WHIF1 | 265 | -----GVDMSHQ----- | 272 |
| INF1 | | ----- | |
| FHOD1 | 340 | -----DIEEAPGAGGRERRRKP----- | 357 |
| FHOD3 | 328 | -----DETTEPPSGCDRRRARSVCSSGGG----- | 352 |
| DELPH | 272 | -----GPGGARTRVRY----- | 283 |
| FMN1 | 108 | QRKEAGTSLLAQELLPLSTLKGTKDDVICVGR-----TLVHTTSDSDSDGGQPEEGS-STNGPK | 167 |
| FMN2 | 107 | ELDSAHSLLTKTPDLSLSADEAGLSDTECADPFEVTPGGGPAEARVGRPIAEDVETAAGQDQRTSSGS-DTDIYS | 185 |

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|-------|-----|--|-----|
| DIA1 | 392 | -EVFQILLNTV----- | 401 |
| DIA2 | 419 | -DVYNM WVSTV----- | 428 |
| DIA3 | 407 | -EVYHLLYNML----- | 416 |
| DAAM1 | 362 | -QMFELTRKRL----- | 371 |
| DAAM2 | 358 | -QMFELIHKKL----- | 367 |
| FRL1 | 383 | -DVGALLEDETE----- | 392 |
| FRL2 | 377 | -DVGALLEDAE----- | 386 |
| FRL3 | 380 | -DVGALLEDAE----- | 389 |
| WHIF1 | 273 | -EVFASLFHKV----- | 282 |
| INF1 | | ----- | |
| FHOD1 | 358 | SEEGKRSRRSL-----EGGGCPARAPEPGPT | 383 |
| FHOD3 | 353 | EHRGLDRRRSR-----RHSVQSIKSTLSAPT | 378 |
| DELPH | 284 | --KGNKSGFT-----LRHGHPVWIESVLP | 307 |
| FMN1 | 168 | SPSGVLSEF-----SQESKENPGGFRENTVTGEMNGAELCAEDPQRIPPEMSSKLEAGNGGLQTERRPSQDQV | 235 |
| FMN2 | 186 | FHSATEQEDLLSDIQQAIRLQQQQQQQLQLQLQQQQQQQLQGAEEPAAPPTAVSPQPGAFLGLDRFLLGPGSGGAGEAPG | 265 |
| DIA1 | 402 | --KDSKAEPHFLSILQHLLLRND-----YEARPQYYKLIIEC-- | 437 |
| DIA2 | 429 | --KETRAEGYFISILQHLLLRND-----YFIRQQYFKLIDEC-- | 464 |
| DIA3 | 417 | --KDTAAENYFLSILQHLLLRND-----YYIRPQYYKIIIEC-- | 452 |
| DAAM1 | 372 | --THSEAYPHFMSILHHCLQMPYKR-----SGNTVQYWLLLDRI-- | 408 |
| DAAM2 | 368 | --KYTEAYPCLLSVLHHCLQMPYKR-----NGGYFQQWQLLDRI-- | 404 |
| FRL1 | 393 | --TKNAVLEHMEELQEQQVALLTER-----LRD----- | 417 |
| FRL2 | 387 | --TKNAALERVEELENISHLSEK-----LQD----- | 411 |
| FRL3 | 390 | --TKNVALEKVEELEEHVSHLSEK-----LLD----- | 414 |
| WHIF1 | 283 | --SCSPVSAQLLSVLQGLLHLEPT-----LRSSQLLWEALESL-- | 318 |
| INF1 | | ----- | |
| FHOD1 | 384 | GPASPVGPT-----SSTG----- | 396 |
| FHOD3 | 379 | SPCSQSAPSFKNQVRDLREKYSN-----FGNNSYHSSRPSSG---- | 416 |
| DELPH | 308 | SPADNAALKSGDRILFLNGLDMRN-----CSHDKVVSMLQSGSAM-- | 347 |
| FMN1 | 236 | GEEGSQDLPAVTNQNSSVG-----ITESASSKKEVSGEKSQLPAPFFSGLRVLKKGATAEG-- | 291 |
| FMN2 | 266 | SPDTEQALSALSDLPESLAAEPREPQQPPSPGGLPVSEAPSLPAAQPAAKDSPSSTAFFPPEAGPGEAAAGAPVRGAGDT | 345 |
| DIA1 | 438 | -----ISQIVLHKN-GADPDFKCR-HLQIE-----IEGL | 464 |
| DIA2 | 465 | -----VSQIVLHRD-GMDPDFTYRKRLDLD-----LTQF | 492 |
| DIA3 | 453 | -----VSQIVLHCS-GMDPDFKYRQRDID-----LTHL | 480 |
| DAAM1 | 409 | -----IQQIVIQNDKGGQDPDSTPLENFNIK-----NV | 435 |
| DAAM2 | 405 | -----LQQIVLQDERGVDPDLAPLENFNVK-----NI | 431 |
| FRL1 | 418 | -----AENE----- | 421 |
| FRL2 | 412 | -----TENE----- | 415 |
| FRL3 | 415 | -----LENE----- | 418 |
| WHIF1 | 319 | -----VNRAVLLAS-----DAQ-----ECT | 333 |
| INF1 | | ----- | |
| FHOD1 | 397 | -----PALLTGPASSPVGP-----PSGLQASVNL | 420 |
| FHOD3 | 417 | -----SSVPTTPTSSVSPQEARLERS-----SPSGLLTSSFR | 449 |
| DELPH | 348 | -----PTLVVEEGLVPFASDSDSLDSP-----NPSSALTSLQW | 380 |
| FMN1 | 292 | -----GETITEIKPKDGLLALLKLTQPVKSLVQAGLQTVKSEKATDPKA-----TPTLLEQLSLL | 348 |
| FMN2 | 346 | DEEGEEDAFEDAPRGSPEGEWAPEVGEDAPQRLGEEPEEEAQGPDAPAAASLPGSPAPSORCFKPYPLITPCYIKTTTRQ | 425 |
| DIA1 | 465 | IDQMIDKTKVEKSEAK----- | 480 |
| DIA2 | 493 | VDICIDQAKLEEFEEK----- | 508 |
| DIA3 | 481 | IDSCVNKAKVEESEQK----- | 496 |
| DAAM1 | 436 | VRMLVNEVEVKQWKEQ----- | 451 |
| DAAM2 | 432 | VNMLINENEVKQWRDQ----- | 447 |
| FRL1 | 422 | -----SMAKIAELEKQ----- | 432 |
| FRL2 | 416 | -----AMSKIVELEKQ----- | 426 |
| FRL3 | 419 | -----NMMRVAELEKQ----- | 429 |
| WHIF1 | 334 | LEEYVERLLSVKGRPR----- | 349 |
| INF1 | | ----- | |
| FHOD1 | 421 | FPTI---SVAPSADTS-----SERSIY-----KARFL | 444 |
| FHOD3 | 450 | QHQE---SLAERERRRQEREERLQRIER-----EERNKFSRDYLDKREEQRQA-----REERYKYL | 503 |
| DELPH | 381 | VAEILPSSIRVQGRTFSSQLEHLLTPPERYGVCRALESFFQHRNIDTLIVDVYPVLDTPA-----KQVLWQFI | 448 |
| FMN1 | 349 | LNIDMPKTEPKGADPESPREEM-----GCNADQESQSGPGVPTQGGEVKPKSPETALEAFKALFIRPPRKGTADT | 421 |
| FMN2 | 426 | LS--SPNHSPSQSNQSPRIKRRPEPSLSRGSRTALASVAAPAKKHRADGGLAGLSRSA-DWTEELGARTPRVGGSAHL | 502 |

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|------------|-----|---|-----|
| DIA1 | 481 | ----AAELEKKLDSELTA----- | 494 |
| DIA2 | 509 | ----ASELYKKFEKEFTD----- | 522 |
| DIA3 | 497 | ----AAEFSKKFDEEFTA----- | 510 |
| DAAM1 | 452 | ----AEKMRKE----- | 458 |
| DAAM2 | 448 | ----AEKFRKE----- | 454 |
| FRL1 | 433 | ----LSQARKELETLRER----- | 446 |
| FRL2 | 427 | ----LMQRNKELDVVREI----- | 440 |
| FRL3 | 430 | ----LLQREKELESIKET----- | 443 |
| WHIF1 | 350 | ----PSPLVKAHKSVQAN----- | 363 |
| INF1 | | ----- | |
| FHOD1 | 445 | ENVAAAETEKKV---ALA-----QGRA----- | 463 |
| FHOD3 | 504 | EQLAAEEHEKELRSRSVS-----RGRADLSLDLTSAPAACLAPLSH-----SPSSSDSQEAL | 556 |
| DELPH | 449 | YQLLTYE-EQELCQEKIACFLG-----YTAMTAEPEPELDLESEPTPEP-QPRSS-----LRASSMCRRL | 507 |
| FMN1 | 422 | SELEALKRKMREKESL-----RAVFERSNSKPADGPPSDS----- | 456 |
| FMN2 | 503 | LERGVASDSGGVSPALAAKASGAPAAADGFQNVFTGRTLLEKLFSSQENGPPEAEKFCRSRIIAMGLLLPFSDCFREPC | 582 |
| DIA1 | 495 | -----RHELVEMKKMESDFE | 510 |
| DIA2 | 523 | -----HQETQAELOKKEA--- | 535 |
| DIA3 | 511 | -----RQEAQAELOKRDE--- | 523 |
| DAAM1 | 459 | -----HNELQKKLEKKERECD | 474 |
| DAAM2 | 455 | -----HMELVSRLEKERECE | 470 |
| FRL1 | 447 | -----FSESTAMGASRRPPEP | 462 |
| FRL2 | 441 | -----YKDANTQVHTLRKMMVK | 456 |
| FRL3 | 444 | -----YENTSHQVHTLRRLIK | 459 |
| WHIF1 | 364 | -----LDQSQRGSSPQNTTTP | 379 |
| INF1 | 1 | -----MHVMN----- | 5 |
| FHOD1 | 464 | -----ETLAGAMPNEAGG-- | 476 |
| FHOD3 | 557 | TVSASSPGTPH-----HPQASAGDPEPES---EAEPEAEAGAGQVADEAGQDI | 601 |
| DELPH | 508 | RSQGLEAGLSC-----GPSECEMPLPLI---PGE-----RQAGDG- | 540 |
| FMN1 | 457 | -----KSPDHSLTEQDDRTPGRLQAVWPPPKTKDTEEKVGLKYTEAEYQAAILHLKREHKEEI | 514 |
| FMN2 | 583 | NQNAQTNAASFQDQLYTAAVVSQPTHSLDYSEGQFPRRVPSMGPPSKPPDEEHR--LEDAETESQSAVSETPQKRSDAV | 660 |
| FH1 | | | |
| DIA1 | 511 | QKIQ-----DLQGEKDALHSEKQATEKQDLEAEVSQLTGEVAK-----LTKELE | 556 |
| DIA2 | 536 | -KIN-----ELQAELOAFKSFQFAL----- | 554 |
| DIA3 | 524 | -KIK-----ELEAEIQQLRTQAQVL----- | 542 |
| DAAM1 | 475 | AKTQ-----EKEEMMQTLNKMKEKLEKETTEHK---QVKQQVAD-----LTAQL- | 515 |
| DAAM2 | 471 | TKTL-----EKEEMMRTLNMKMDKLAESQELR---QARGQVAE-----LVAQL- | 511 |
| FRL1 | 463 | EKAPP-----AAPTRPSALELKVLEELEKGL-----IR | 490 |
| FRL2 | 457 | EKE-----EAIQRQSTLEKKIHELEKQGT-----IK | 482 |
| FRL3 | 460 | EKE-----EAFQRRCHLEPNVRGLE----- | 479 |
| WHIF1 | 380 | KPSV-----EGQQPAAAAACEPVDHAQSESI-----LK | 407 |
| INF1 | 6 | -----CV----- | 7 |
| FHOD1 | 477 | -----HPDARQ----- | 482 |
| FHOD3 | 602 | ASAH-----EGAETEVEQALEQEPEE-RASLSEKERQ-----NEGVNERDNCSASSV----- | 647 |
| DELPH | 541 | TSLP-----ETPNPKMMSAVYAELES-RLNSSFKGKM-----GTVSKSRASPPGP----- | 584 |
| FMN1 | 515 | E NLQAQFELRAFHIRGEHAMITARLEETIENLKHELEHRWR-----GGCEERKDVCI----- | 566 |
| FMN2 | 661 | QK-----EVVDMKSEGG-ATVIQQLQETIEDLRKTKIAELERQYPALDTEVASGHQGLENGVTASGDVCLALRLEEKEVR | 734 |
| DIA1 | 557 | -----DA----- | 558 |
| DIA2 | | ----- | |
| DIA3 | | ----- | |
| DAAM1 | | ----- | |
| DAAM2 | | ----- | |
| FRL1 | 491 | -----IL----- | 492 |
| FRL2 | 483 | -----IQ----- | 484 |
| FRL3 | | ----- | |
| WHIF1 | 408 | -----VS----- | 409 |
| INF1 | | ----- | |
| FHOD1 | 483 | -----LWD-----SPET | 489 |
| FHOD3 | 648 | -----SSSSSTLEREEKEDKLSRDRRTTGLWPAGVQDAGVNGQ-----CGDIL--TNKRFMLDMLYAHN-----RKSPDD | 709 |
| DELPH | 585 | -----SPAVTTGPRTLGSVSWPSEER---LLSPCYHPLCSGG---LASPS--SSESHPYASLDSSR-----APSPQP | 643 |
| FMN1 | | ----- | |
| FMN2 | 735 | HHRILEAKSIQTSPTTEGGVLTLPVPDGLPGRPPCPGAESGPQTKFCSEISLIVSPRRISVQLDSSHQPTQISISQPPPPP | 814 |

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|-------|------|--|-----|
| DIA1 | 640 | SPPPPLSGDATIPPPPPLPEGV-----GIPSPSSLPGGTAIPPPPPLPGSARIPP-PPP-LPGSA-GIPPPPPLPGEA | 711 |
| DIA2 | 573 | SAL-----PPPPPPLPSGG-----GVPPPPP-----PPPPPPLPG-MRM-P-FSGP-VP-----PPPLGFLGGQ | 622 |
| DIA3 | 563 | PPP-----PPAPPLPGGA-----PL-----PPPPPPLGMMGI-P-PPP-PLLFGGPPPPPPLGG-- | 611 |
| DAAM1 | 526 | -----SIPGGPS-----PGAPGGP--FPSS-VPGSL-LPPPPPPLPGGM | 561 |
| DAAM2 | 520 | -----SS-----PPPPGGPLTLSSS-MTND-LPPPPPPLPFACC | 552 |
| FRL1 | 551 | LPSP-----QEAPP-----SAPPQAPPLPGSPEPPP--APP-LPGDLPPPPPPPPPPGTD | 598 |
| FRL2 | 536 | SSDT-----PETVQ-----NGPV-TPPMPPPPPPPP-PPP-PP-----PPPPPPLPGPA | 578 |
| FRL3 | 508 | PAPP-----PEEVL-----PLPPPAPPL--PPP-PP-----PLPDKCPP----- | 539 |
| WHIF1 | 437 | PPP-----PPPPPPLSVGAKALPTAPPPPL-----PGLGAMAPPAPP-LPPP-LPGSCEFLPPPPPPLPLGL | 498 |
| INF1 | 18 | IATAPGFMIGQTTPPPAPP-----PPPPPP-----SPPSCSREECPP-SSPP-PP-----PPPLPG-- | 68 |
| FHOD1 | 583 | PPPPP-----L-PPPPPIKGF-----PPPPPL-----PLAAP-LPHS-VPDS----- | 617 |
| FHOD3 | 858 | PPPPPPLLDLDS-IPPPVPGNLL-----VPPPPVF-----NAPQG-LGWSQVPRG----- | 900 |
| DELPH | 768 | -KPSRSSDGSRGPAQALAKPLTQLSHVPPPPPP-----PP-LPPP-VPCA-----PPMLSR-- | 816 |
| FMN1 | 665 | LSAPPMPVVSAGPPLPPP-----PPPPPL-----PPSSAGPPPPP-PPP-LPN-----SPAPPNP-- | 717 |
| FMN2 | 1118 | IPPPPPLPGAGIPPPPPLPGAGI----PPPPPLPRVG----- | |

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|-------|------|--|------|
| DIA1 | 712 | GMPPPPPPLPGGPGIPPPP-----FPGGPGIP-----PPPPGMGMPPPP-----PFGFVPA----- | 760 |
| DIA2 | 623 | NSPPLP----- | 628 |
| DIA3 | 612 | -VPPPGI-----S----- | 619 |
| DAAM1 | 562 | LPPPPPPLPGGPPPPPGPP-----P-LGAIMP-----PP---GAPM-----GLA----- | 597 |
| DAAM2 | 553 | PPPPPPLPGGPPPTPGAP-----PCLGMGLP-----LP---QDPYPS-----S---DVP----- | 592 |
| FRL1 | 599 | GPVPPP--PPPPPPPGGPP-----DALG-----RRD-----S-----ELGPG----- | 629 |
| FRL2 | 579 | AETVPA--PPLAPPLPSAPP-----L--PGTS-----SPT-----V-----VFNSGLA----- | 612 |
| FRL3 | 540 | -----APP-----L--PG-A-----APS-----V-----VLTVGLS----- | 557 |
| WHIF1 | 499 | CPPPPPLPGMGWGP PPPP-----PPLLCTC-----SPPV--AGGMEE-----VIVAQVDHG----- | 545 |
| INF1 | 69 | -EPIP--PPPPGL-PP----- | 81 |
| FHOD1 | | ----- | |
| FHOD3 | | ----- | |
| DELPH | 817 | -----GLG----- | 819 |
| FMN1 | 718 | -GPPA--PPPPGLAPPPP----- | 734 |
| FMN2 | 1184 | IPPPP--LPGVGIPPPPLPGAGIPPPPPLPGMGIAPPAPPLPPPGTGIPPPPLPVSGPPLLQVGSSTLPTQVCG | 1261 |

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|-------|------|--|------|
| DIA1 | 761 | ---PVLPGFLT-----PKKLYKPEVQLRRPNWSK LVAEDLS Q-DC-----FWTKVKEDRFEN-NELFAK- | 814 |
| DIA2 | 629 | ---ILPGLK-----PKKEFKPEISMRRLNWLK IRPHEMT E-NC-----FWIKVNEKNYEN-VDLLCK- | 681 |
| DIA3 | 620 | ---LNLPGYMK-----QKKMYKPEVSMKRINWS KIEPT ELSE-NC-----FWLRVKEDKFEN-PDLFAK- | 673 |
| DAAM1 | 598 | -----LK-----KKSIPQPTNALKSFNWSKL PENKLE --GT-----VWTEIDDTKVFK-ILDLED- | 644 |
| DAAM2 | 593 | -----LR-----KKRVPQSPHPLKSFNWVWKLNE ERVV --GT-----VWNEIDDMQVFR-ILDLED- | 639 |
| FRL1 | 630 | -----VK-----AKKPIQTKFRMPLLNWV ALKPSQIT --GT-----VFTELNDEKVLQ-ELDMSD- | 676 |
| FRL2 | 613 | -----AVK-----IKKPIKTKFRMPVFNWV ALKPNQIN --GT-----VFNEIDDERILE-DLNVD- | 660 |
| FRL3 | 558 | -----AIR-----IKKPIKTKFRMPVFNWV ALKPNQIS --GT-----VFSELDDKILE-DLDDK- | 605 |
| WHIF1 | 546 | ---LGSAWVPS-----HRRVNPPTLRMKLNWQK LPSNVARE HNS-----MWASLSSPDAAEAVEPDFSS- | 601 |
| INF1 | 82 | -----TTHMNGYSHLGGKKRMSFFWK TIP --EEQVRGKTN-----IW TAAAR QEHYQ-IDTKT- | 133 |
| FHOD1 | 618 | -----S-ALPTKRKTVKLFW RELKLAG GHGVSASRFGPCAT-LWASLDVSV-----DTAR- | 666 |
| FHOD3 | 901 | -----QPTFTKKKKTIRLFWNEVPFDWPCCKNNRR-- CREFLW SKLEPIKV-----DTSR- | 948 |
| DELPH | 820 | -----HRRSETSHMS VKRLRWEQ VENSE GT -----IW QLG EDSDYDKLSDMVKY | 864 |
| FMN1 | 735 | -----GLFFGLGSSSSQCPRKPAIEPSCPMP PLYWTRI QISDRSQNATPT-----LWDSLEEPDIRDP-SEFEY- | 797 |
| FMN2 | 1262 | FLPPPLPSGLF-GLGMNQDKGSRKQPIEPCRP MYWTR IQLHSKRDSSTSL-----IWEKIEEPI-DC-HEFEE- | 1330 |

FH2

| | | | |
|-------|------|---|------|
| DIA1 | 815 | --LTLTFSAQTKTS-----KAKKDQEGGEEKS-VQKKVKELKVLDSKTAQNLSIFLGSFRMPYQEIKNVILEVNEA | 884 |
| DIA2 | 682 | --LENTFCCQKER-----RE---EEDIEEKS--IKKKIKELKFLDSKIAQNLSIFLSSFRVPEEIRMMILEVDET | 747 |
| DIA3 | 674 | --LALNFATQIKVQ-----KN---AEALEEKTGPTKKVKELRLILDPKTAQNLSIFLGSYRMPYEDIRNVILEVNE | 741 |
| DAAM1 | 645 | --LERTFSAYRQDDFFVNSNSKQKEADAIDT LS --SKLKVKELSVIDGRRQNCNILLSRLKLSNDEIKRA ITMDEQ | 720 |
| DAAM2 | 640 | --FEKMFAYQRHQ-----KELGSTEDIYL--ASRKVELSVIDGRRQNCIILLSKLSNDEIRQA ILKMDQ | 705 |
| FRL1 | 677 | --FEEQFKTKSQGP-----SLDLSALKSKAA--QKAPSKATLIEANRAKNLAITLRKGNLGAERICQAI EAYDLQ | 742 |
| FRL2 | 661 | --FEEIFKTKAQGP-----AIDLSSSKQKIP--QKGSNKVTLLEANRAKNLAITLRKAGKTADE ICKAIHVF DLK | 726 |
| FRL3 | 606 | --FEELFKTKAQGP-----ALDLCSKNKTA--QKAASKVTLLEANRAKNLAITLRKAGRS AEIICRAIHTF DLQ | 671 |
| WHIF1 | 602 | --IERLFSFPAKP-----KEPTMVAPRARKEPKEITFLDAKKS LNLNIFLQFKCSN EEVAAMIRAGDTT | 665 |
| INF1 | 134 | --IEELFGQEDTT-----KSSLPRGRGRTLNS FEAREE ITILDAKRSMNIGIFLQFKKSPRS IVEDIHQ GKSE | 202 |
| FHOD1 | 667 | --LEHLFESRAKEV-----LPS-----KK-AGEG-RRTMTTVLDPKRSNAINIGLTT L -PPVHV IKAA LLNFDEF | 726 |
| FHOD3 | 949 | --LEHLFESKSKEL-----SVS-----K TAADG -KRQ EI IVLDSKRSNAINIGLTVL-PP RTIKIA ILNFDEY | 1009 |
| DELPH | 865 | LDLELHFGTKPAK-----VVP-----G P -EP R -K KEVVE ILSHKKAYNTS ILLAH LKLS PAELRQ VMSLEPR | 927 |
| FMN1 | 798 | --LFSKDTTQKKK-----PLS-----E TYE KK KN --V KKI IKLLDGKRSQ TVG ILISSLH LEMKDIQQA IFNVDDS | 860 |
| FMN2 | 1331 | --LFSKTA VKERK -----PIS--DTIS KTKA --K QVVK LLSNKRSQ AVG ILMSSLH LDMKDIQ HAVVNLDS | 1392 |

DIA1 885 V-LTESM QNLIKQMPPEPEQLKMLSEL---KDE---YDDLAESEQFGVVMGTVPRLRPRLNAILFKLQFSEQVENIKPEI 957
DIA2 748 R-LAESMI QNLIKHLPDQEQLNLSLQF---KSE---YSNLCEPEQFVVMNSVKRLRPRLSAILFKLQFEEQVNNIKPDI 820
DIA3 742 M-LSEALIQ NLVKHLPEQKILNELAEL---KNE---YDDLCEPEQFGVVMSSVKMLQPRSSILFKLTFEEHNNIKPSI 814
DAAM1 721 EDLFKDMLEQLLKFVPEKSDIDLLEE---KHE---LDRMAKADRFLFEMSRIDHYQQRLQSLYFKKKFAERVAEVKPKV 794
DAAM2 706 EDLAKDMI EQLLKFIPKSDIDLLEE---KHE---IERMARADRFLYEMSRIDHYQQRLQALFFKKKQFQERLAEAKPKV 779
FRL1 743 A-LGLDFLELLMRFLPTEYERSLITRF---EREQRPMEELSEEDRFMLCFSRIPRLPERMTTLTFLGNFPDQAQLLMPQL 818
FRL2 727 T-LPVDFVECLMRFLPTENEVKLRLY---ERERKPLENLSDEDRFMMQFSKIERLMQKMTIMAFIGNFAESI QMLTPQL 802
FRL3 672 T-LPVDFVECLMRFLPTEAEVKLLRQY---ERERQPLEELAAEDRFMLLFSKVERLTQRMAGMAFLGNFQDNLQMLTPQL 747
WHIF1 666 K-FDVEVLKQLLKLLEPKHEIENLRAF---TEE---RAKLASADHFYLLLLAIPCYQLRIECMLLCEGAAAVLDMVRPKA 738
INF1 203 H-YGSETI REFLKFLPESEEVKLLKAF---SGDVSKLSLADSFYGLIQVPNYSLRIEAMVLKKEFLPSCSSLYTDI 275
FHOD1 727 A-VSKDGIEKLLTMMPTEEERQKIEEA---QLANPDIPLGPAENFLMTLASIGGLAARLQLWAFKLDYDSMEREIAEPL 801
FHOD3 1010 A-LNKEGIEKILTMIPTDEEKQKIQEA---QLANPEIPLGSAEQFLTLTSSISELSARLHLWAFKMDYETTEKEVAEPL 1084
DELPH 928 R-LEFAHLAQLLTFAPDADEEQRYQ---AFREAPGRLLSEPDQFVLCQMLSVPEYKTRLRSLHFQATLQEKTEEIRGSL 1000
FMN1 861 V-VDLETLAALYENRAQDEDELVKIRKYETSK---EELKLLDKPEQFLHELAQIPNFAERAQCIIFRSVFSEGITSLHRKV 938
FMN2 1393 V-VDLETQALYENRAQSDLEKIEKHGRSSKDKENAKSLDKPEQFLYELSLIPNFSERVFICILFQSTFSESICSI RRKL 1471

DIA1 958 VSVTAACEELRKSSESFSNLEITLLVGNMAGSRN-AGAFGNISFLCKLRDTKST-DQKMTLLHFLAELCEN-----D 1030
DIA2 821 MAVSTACEEIKKSKSFSKLELVLMLGNMAGSRN-AQTFGNLSSLCKLKDTKSA-DQKMTLLHFLVEICEE-----K 893
DIA3 815 IAVTLACEELKKSSESFNRLLELVLGNMAGSRN-AQSLGKFINFLCKIRDTKSA-DQKMTLLHFIADICEE-----K 887
DAAM1 795 EAIRSGSEEVFRSGALKQLLEVVLAFGNMNGQR--GNAYGFKISSLNKIADTKSSIDKNI TLLHYLITIVEN-----K 867
DAAM2 780 EAILLASRELVRSKRLRQMLEVILAIGNFMNGQR--GGAYGFRVASLNKIADTKSSIDRNI SLLHYLIMILEK-----H 852
FRL1 819 NAI IAASMSIKSSDKLRQILEIVLAFGNMNSKR--GAYGFRQLQSLDALLEMKST-DRKQTL LHYLVKVAIE-----K 890
FRL2 803 HAI IAASVSIKSSQKLLKILEI IALGNMNSKR--GAVYGFKLQSLDLDLDTKST-DRKQTL LHYLSNVVKE-----K 874
FRL3 748 NAI IAASASVKSSQKLLKQMLEI IALGNMNSKR--GAVYGFKLQSLDLDLDTKST-DRKMTLLHFIALTVKE-----K 819
WHIF1 739 QLVLAACESLLTSRQLPIFCQLILRIGNFLNYGSH-TGDADGFKISTLLKLTETKSQ-QNRVTL LHHVLEEEAEK-----S 811
INF1 276 TVLRTAIKELMSCEELHSILHLVLQAGNIMNAGGYA-GNAVGFKLSSLLKLADTKAN-KPGMNL LHFVAQEAQK-----K 348
FHOD1 802 FDLKVGMEQLVQNFRCILATLAVGNFLNGSQ-----SSGFELSYLEKVSVEKDT-VRRQSL LHHLCSLVLQ-----T 870
FHOD3 1085 LDLKEGIDQLENNKTLGFI LSTLLAIGNFLNGTN-----AKAFELSYLEKVSVEKDT-VHKQSL LHHVCTMVE-----N 1153
DELPH 1001 ECLRQASLELKNRKLAKILEFVLAMGNVLDGQPKTKNTTGFKINFLTELNSTKTV-DGKSTFLHILAKLSLQ-----H 1074
FMN1 939 EII TRASKDLLHVKSVDILALILAFGNMNGNRTRGQADGYSLEI LPKLDVKVSR-DNGINLV DYVVKYLYRYDQEA 1017
FMN2 1472 ELLQKLCETLKNQGVMLVGLVLAFGNVMNGNKRTRGQADGFLDILPKLDVKVSS-DNSRSL LSYIVSYLRNFDEDA 1550

DIA1 1031 YPDVLKFP-DELAHVEKASRVSAENLQKNLDQMKQI SDVERDVQNFPA--ATDEKDKFVEKMTSFVKDAQEQYNKL RMM 1107
DIA2 894 YPDILNFV-DDLEPLDKASKVSVETLEKNLRQMGRLQOLEKELETFFP--PEDLHDKFVTKMSRFTVISAKEQYETLSKL 970
DIA3 888 YDLILKFP-EELEHVESASKVSAQILKNLNASMEQQIVHLERDIKKFPQ--AENQHDKFVEKMTSFTTAREQYKELSTM 964
DAAM1 868 YPSVLNLN-EELRDI PQAQKVNMTELDKEISTLRSGLKAVETELEYQKSQ-PPQPGDKFVSVVSQFITVASFSFSDVEDL 945
DAAM2 853 FPDILNMP-SELQHLPEAAKVNLALEKEVEGNLRRGLRAVEVELEYQRRQ-VREPSDKFVPMVSDFITVSSFSFSELEDQ 930
FRL1 891 YPQLTGPH-SDLHFLDKAGSVSLDSVLADVRSLQRGELTQREFVRQD-----CMVLKEFLRANSP TMDKLLAD 959
FRL2 875 YHQVSLFY-NELHYVEKAAAVSLENVLLDVKELGRGMDLTKRYETMHDH-----NTLLKEFILLNNEGKLLKQLDQ 943
FRL3 820 YPDLANFW-HELHFVEKAAAVSLENVLLDVKELGRGMDLTKRYETMHDH-----NSVLRNFLSTNEGKLDKLRD 887
WHIF1 812 HPDLLQLP-RDLEQPSQAAGINLEI IRSEASSNLKLLLETERKVSASVA---EVQEQYTERLQASISA---FRALDEL 882
INF1 349 DTILLNFS-EKLHHVQKTARLSLENTEAELHLLFVRTKSLKENIQRDGE-----LCQQMEDFLQFAIEKLRLELCW 418
FHOD1 871 RPESSDLY-SEI PALTRCAKVDQFDELQENLQLEERRSRAAEESLRS LAK---HELAPALRRLTHFLDQCARRVAMLRIV 946
FHOD3 1154 FPDSSDLY-SEI GAITRSKVDQFQDQDNLQCMERRCKASWDHLKAIK---HEMKPVLKQRMSEFLKDC AERI I ILKIV 1229
DELPH 1075 FPPELLGFA-QDLP TVPLAAKVNQALTSDLADLHGTISEIQDACQSISP---SSEDKFAMVMSFLETAQPALRALDGL 1149
FMN1 1018 GTEKSVFPLPEPQDFFLASQVKFEDLIKDLRKLKRLQLEASEKQMVVVKCESPKYEQPFKDKLEEFFQAKKHEKMEESH 1097
FMN2 1551 GKEQCLFPLPEPQDLFQASQMKFEDFQKDLRKLKLDLKA CEVEAGKVYQVSSKEHMQP FKENMEQFI IQAKIQEAEENS 1630

DIA1 1108 HSNMETLYKELGEYFLDFPKK----LSVEEFFMDLHNFNMFLQAVKEN-QKRRETEEKMRRAKLAKEA----- 1172
DIA2 971 HNMKELYQSIIGYYAIDVKK----VSVEDFLTDLNNFRITTFMQAIKEN- IKKREAEKEKRVRIAKELA----- 1035
DIA3 965 HNNMMKLYENLGEYFIFDSKT----VSEIEFFGLDNNFRTLFLEAVREN-NKRREMEKTRRAKLAKEA----- 1029
DAAM1 946 LAEAKDLFTKAVKHFGEEAGK----IQPDEFFGIFDQFLQAVSEAKQENENMRKKKEEERRARMEALQK----- 1011
DAAM2 931 LNEARDKFAKALMHFGEDSK----MQPDEFFGIFDQFLQAVSEARQDLEAMRRRKEEERRARMEAMLK----- 996
FRL1 960 SKTAQEAFAFESVVEYFGENPKT----TSPGLFFSLFSRFIKAYKKAQEV-EQWKK-EAAAQEA GADTPGKGEPPAPKSP 1033
FRL2 944 AKIAQEAADFDDVVKYFGENPKT----TPPSVFFVVFVRFVVKAYKQAEEN-ELRKKQEALMEKLLQEALMEQD PKSPS 1018
FRL3 888 AKTAAEAYNAVVRVYFGESPKT----TPPSVFFVVFVRFVRSYKAEQEN-EARKKQEVMEVREKQLAQEA--KKLD AKTPS 960
WHIF1 883 FEAEIQKQRELADYLCEDAQQ----LSLEDTFSTMKAFRDLFLRALKEN---KDRKEQAAKAERRKQQLA----- 945
INF1 419 KQELQDEAYTLIDFFCEDKKT----MKLDECQFQIFRDFCTKFNKAVKDN--HDREAQELRQLQLRLEKEQ-QKRSWATGE 491
FHOD1 947 HRRVCNRFHAFLLYLGYPQAA-REVRIMQFCHTLREFALEYRTCRERV--LQQQKQATYRERNKTRGR-MITE--TEK 1020
FHOD3 1230 HRRIRNRFHSFLLFMGHPYAI-REVNINKFCRI ISEFALEYRTTRERV--LQQKQKRANHRRERKTRGR-MITD--SGK 1303
DELPH 1150 QREAMEELGKALAFFGEDSKA----TTSEAFFGIFAEFMSKF----ERA--LSDLQA-----GE-GLRS--SGM 1205
FMN1 1098 LENAQKSFETTVRYFGMKPKSGEKIEITPSYVFMVWYEFCSDFK----- 1140
FMN2 1631 LTETHKCFLETTAYFFMKPKLGEKEVSPNAFFS IWHFESSDFK----- 1673

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|-------|------|---|------|
| DIA1 | 1173 | -----EKERLEKQKREQLIDMNAEGDETVGMDSLLEALQSGAAF-----R--RKRGRPQA----- | 1221 |
| DIA2 | 1036 | -----ERERLERQKKKRLLEMKTEGDETVGMDNLLLEALQSGAAF-----RDRRKRTMPKDVRSLSFMSQRV | 1100 |
| DIA3 | 1030 | -----EQEKLERQKKKQLIDINKEGDETVGMDNLLLEALQSGAAF-----RDRRKRI PR----- | 1078 |
| DAAM1 | 1012 | -----EQRERERKMRKAK-----ENSEESGEFDDLVSALRSGEVFDKDLCKL--KRNKRITNQM----TDSSRERPI | 1073 |
| DAAM2 | 997 | -----EQRERERWQRQKVLAAAGSSLEEGGEFDDLVSALRSGEVFDKDLCKL--KRSRKRSGSQA----LEVTRERAI | 1063 |
| FRL1 | 1034 | -KARRPQMDLISELKRRQKQKEPLIYESDRDGAIEDIITVIKTVPFT-----A--RTGKRTS--RLLCEASL----GHEM | 1098 |
| FRL2 | 1019 | HKSKRQQQELIAELRRRQVKDNRHVYEGKDGAIEDIIITDLRNQPYR-----R--ADAVRRSVRRRFDQNLRSVNGAEI | 1090 |
| FRL3 | 961 | QRNKWQQQELIAELRRRQAKEHRPVYEGKDGTIEDIIITVLKSVPFT-----A--RTAKRGS--RFFCD----AAHDES | 1026 |
| WHIF1 | 946 | -----EEEARRPRGEDGKPVKPGKQEEVVCVIDALLADIRKGFQLRKTA-----RGRGDTGGSKAASMDPPRATEP | 1013 |
| INF1 | 492 | LGAFGRSSSENDVELLTKKAEG-----LLPFLHPRPISPSSPSYRPPNTRRSRLSLGPSADRELLTFLESST | 559 |
| FHOD1 | 1021 | FSGVAGEAPSNPSVPVAVSSGPRGDADSHASKSLL-TSRP--EDTT-----HNRRSRGMVQSSSP--IMPTVGPST | 1088 |
| FHOD3 | 1304 | FSG---SSPAPPSQPGLSYAE---DAAEHENMKAVLKTSSPSVEDATPALGVTRRSRASRGSTSSW-----T | 1365 |
| DELPH | 1206 | VSPLAW----- | 1211 |
| FMN1 | | ----- | |
| FMN2 | | ----- | |
| | | | |
| DIA1 | 1222 | -----NRKAGCAVTSLLASELTKDDAMAAPAKVSKNSETFPTI-----LEEAKELVGRAS----- | 1272 |
| DIA2 | 1101 | LKVCNHNQKQVQLTEGSRSHYNINCNSTRTPVAKELNYNLDTHSTGRIKAAEKKEACNVESNRKKETELLSFSKNEV | 1180 |
| DIA3 | 1079 | ---NPDNRRVPL-ERSRSRHN-----GAISSK--- | 1101 |
| DAAM1 | 1074 | TKL-NF----- | 1078 |
| DAAM2 | 1064 | NRL-NY----- | 1068 |
| FRL1 | 1099 | PL----- | 1100 |
| FRL2 | 1091 | TM----- | 1092 |
| FRL3 | 1027 | NC----- | 1028 |
| WHIF1 | 1014 | VATSNPAGDPVGVSTRCASEPGLDATTASESRGWDLVDAVTPGPQP-TLEQLEEGGPRPLERRSSWYVDASDLTTEDPQ | 1092 |
| INF1 | 560 | GSPEEPNK-----FHSLPRSSPRQARPTIA--CLEPAEVRHQDSSFAHK---PQASGGQEEAPNPPSAQAHLA | 623 |
| FHOD1 | 1089 | ASPEEPPGSSLPDTSDEIMDLLVQSVTKSSPRALA--ARERKRSRGNRKSRLRRT---LKSGLDLVLQALGLSKGPGLE | 1163 |
| FHOD3 | 1366 | MGTDDSP--NVTDDAADEIMDRIVKSATQVPSQRVV--PRERKRSRANRKSRLRRT---LKSGLTPEEARALGLVGTSELQ | 1438 |
| DELPH | | ----- | |
| FMN1 | | ----- | |
| FMN2 | | ----- | |
| | | | |
| DIA1 | | ----- | |
| DIA2 | 1181 | PEVEALLARLRAL----- | 1193 |
| DIA3 | | ----- | |
| DAAM1 | | ----- | |
| DAAM2 | | ----- | |
| FRL1 | | ----- | |
| FRL2 | | ----- | |
| FRL3 | | ----- | |
| WHIF1 | 1093 | CPQPLEGAWPVTLGDAQALKPLKFSNQPPAAGSSRQDAKDPTSLGLVLAQAEADSTSEGLEDAVHSRGARPPAAGPGGDE | 1172 |
| INF1 | 624 | AAQPENHASAFPRARRQGVSVLRKRYSEPVSLGSAQSPPLSPLAL-GIKEHEL-VTGLAQFNLQGSQGMETSQTLTSLDF | 701 |
| FHOD1 | 1164 | V----- | 1164 |
| FHOD3 | 1439 | L----- | 1439 |
| DELPH | | ----- | |
| FMN1 | | ----- | |
| FMN2 | 1674 | -----DF----- | 1675 |
| | | | |
| DIA1 | | ----- | |
| DIA2 | | ----- | |
| DIA3 | | ----- | |
| DAAM1 | | ----- | |
| DAAM2 | | ----- | |
| FRL1 | | ----- | |
| FRL2 | | ----- | |
| FRL3 | | ----- | |
| WHIF1 | 1173 | DEDEEDTAPESALDTSLDKSFSEDAVTDSSSGTLPRARGRASKGTGKRKRKRSRSQEEVPPDSDDNKTKKLCVIO--- | 1249 |
| INF1 | 702 | SPMELESVGHGRG-PQSLASASSSLTPMGRDALGSLSPALEDGKAAPDEPGSAAALGSGVSSDPENKDPRLFCISDTTDCS | 780 |
| FHOD1 | | ----- | |
| FHOD3 | | ----- | |
| DELPH | | ----- | |
| FMN1 | | ----- | |
| FMN2 | | ----- | |

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|-------|------|--|------|
| DIA1 | | ----- | |
| DIA2 | | ----- | |
| DIA3 | | ----- | |
| DAAM1 | | ----- | |
| DAAM2 | | ----- | |
| FRL1 | | ----- | |
| FRL2 | | ----- | |
| FRL3 | | ----- | |
| WHIF1 | | ----- | |
| INF1 | 781 | LTLDCSEGTDSRPRGGDPEEGEGDGSMSGSGVEMGDSQVSSNPTSSPPGEAPAPVSVSDSEPSCKGGLPRDKPTKRKDVV | 860 |
| FHOD1 | | ----- | |
| FHOD3 | | ----- | |
| DELPH | | ----- | |
| FMN1 | | ----- | |
| FMN2 | | ----- | |
| | | | |
| DIA1 | | ----- | |
| DIA2 | | ----- | |
| DIA3 | | ----- | |
| DAAM1 | | ----- | |
| DAAM2 | | ----- | |
| FRL1 | | ----- | |
| FRL2 | | ----- | |
| FRL3 | | ----- | |
| WHIF1 | | ----- | |
| INF1 | 861 | APKRGSLKEASPGASKPGSARRSQGAVAKSVRTLTAENESMRKVMPITKSSRGAGWRRPELSSRGPSQNPPSSTDTVWS | 940 |
| FHOD1 | | ----- | |
| FHOD3 | | ----- | |
| DELPH | | ----- | |
| FMN1 | 1141 | -----TIWK | 1144 |
| FMN2 | 1676 | -----WK | 1677 |
| | | | |
| DIA1 | | ----- | |
| DIA2 | | ----- | |
| DIA3 | | ----- | |
| DAAM1 | | ----- | |
| DAAM2 | | ----- | |
| FRL1 | | ----- | |
| FRL2 | | ----- | |
| FRL3 | | ----- | |
| WHIF1 | | ----- | |
| INF1 | 941 | RQNSVRRASTGAEEQRLPRGSSGSSSTRPGRDVPLQPRGSFKKPSAKPLRNLPQKPEENKTCRAHSEGPESPKKEEPKTP | 1020 |
| FHOD1 | | ----- | |
| FHOD3 | | ----- | |
| DELPH | | ----- | |
| FMN1 | 1145 | RE-----SKNISKERL-----KMAQESVSKLTSEKKVETK----- | 1174 |
| FMN2 | 1678 | KENKL-----LLQERV-----KEAEEVCRQKKGKSLY----- | 1704 |
| | | | |
| DIA1 | | ----- | |
| DIA2 | | ----- | |
| DIA3 | | ----- | |
| DAAM1 | | ----- | |
| DAAM2 | | ----- | |
| FRL1 | | ----- | |
| FRL2 | | ----- | |
| FRL3 | | ----- | |
| WHIF1 | | ----- | |
| INF1 | 1021 | SVPSVPHELPRVPSFARNTVASSSRSMRTDLPVAKAPGITRTRVTSRQQLRVKGDPEAAPKDSSTLRRASSARAPKKRPE | 1100 |
| FHOD1 | | ----- | |
| FHOD3 | | ----- | |
| DELPH | | ----- | |
| FMN1 | | ----- | |
| FMN2 | | ----- | |

| | | | |
|-------|------|--|------|
| DIA1 | | ----- | |
| DIA2 | | ----- | |
| DIA3 | | ----- | |
| DAAM1 | | ----- | |
| DAAM2 | | ----- | |
| FRL1 | | ----- | |
| FRL2 | | ----- | |
| FRL3 | | ----- | |
| WHIF1 | | ----- | |
| INF1 | 1101 | SAEGPSANTEAPLKARGAGERASLRRKDSRRTLGRILNPLRK | 1143 |
| FHOD1 | | ----- | |
| FHOD3 | | ----- | |
| DELPH | | ----- | |
| FMN1 | 1175 | -----KINPTASLKER-----LRQKEASVTN----- | 1196 |
| FMN2 | 1705 | -----KIKPR---HDSGIKAKISMKT----- | 1722 |