

PF3D7_1354200

Cd Length: 299 Bit Score: 247.52 E-value: 5.24e-75

```
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_4a6afdc7dfd92254328c38dd26d6f8cf 68 FYGCLGIIKAENINFLVIVSEAEVVCNIENRISYIRIKRISFVQLNcekmnkntnelyeyeyicylgSNGNLTSLNNIKKDE 147
Cdd:pfam02383 1 YGILGLIRLLGGSYLIVITKRKVGQIRGHTIYKITSVEFIPLN-----SSEYDSESDKSSKD 60
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_4a6afdc7dfd92254328c38dd26d6f8cf 148 NKKFfconkniqtknyfdnlfgstnflencvykynrfyynetyihkfnctlkedvLKIITYFLhafNKGPFYFSYYN 227
Cdd:pfam02383 61 EEHY-----LKLKLLKLL-----SSGSFYFSYDYD 84
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_4a6afdc7dfd92254328c38dd26d6f8cf 228 LTIISLQNYMNEldkkndmkkkdyllkisehaskklniysnknnndndndndndndndnnNVNKKIQFNEINDEYTWN 307
Cdd:pfam02383 85 LTNISLQRRGLRE-----SSLSLWKRADDFVFN 113
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_4a6afdc7dfd92254328c38dd26d6f8cf 308 WKILDTFKN--VDAYGFVFLIHGYINTNIFHVeDNKKISLYLISRKCKNRSGVRFWCRGSNENGVDVANFVETEQIVVck 385
Cdd:pfam02383 114 SYLLKPLIDfrSDLSDWLLPLIQGFVEQRTISV-NGKKVTLTLISRRSRKRACRYRNRGIDDDGNVANFVETEQIVS-- 190
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_4a6afdc7dfd92254328c38dd26d6f8cf 386 nKERINIFSYIIVRGSIPVLWKQQTLSIRPAIHVCPNMSNKRILNLHMKKLQTNYGKISITNLNKKFGSKYLGECFE 465
Cdd:pfam02383 191 -TNSGRIPSFVQIRGSVPLFWEQDPNLLYKPKIKITRSSEATQPAFDKHFDDLKRYGPIYIVNLLKKGSEKLLSEAYE 269
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_4a6afdc7dfd92254328c38dd26d6f8cf 466 NCLSDCN--VEHNFVDFDFHSEFKKLNFEEN 493
Cdd:pfam02383 270 EAINYLNenKKIKYTFDFHAECKGMKFDN 299
```

PTPc Superfamily

PF3D7_0309000 (DSPc, GH47)

Cd Length: 139 Bit Score: 84.58 E-value: 3.08e-19

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.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_0f2436048220b55cac4ad807de3f046a 313 RHIYNVC-ELNKCLRENKLIPIYnniymkKhLYLNIIDTFDENILKHNKAHLFIDSVIQKKNLILHCMAGISRCSSIIL 391
Cdd:cd00127 29 THVLNVakEVFNENLFLSDFNy-----LYVPIIDLPSQDISKYFDEAVDFIDDAREKGGKVLVHCLAGVSRSATLVI 100
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_0f2436048220b55cac4ad807de3f046a 392 SYVSKKKNKGIENFNLLKSKYYPFAHPNENFYRQLLLE 430
Cdd:cd00127 101 AYLMKTLGLSLREAYEFVKSRRPIISPNAGFMRQLKEYE 139
```

Cd Length: 522 Bit Score: 45.48 E-value: 2.84e-05

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.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_0f2436048220b55cac4ad807de3f046a 184 NKHNNNNNNNNNNNNNNNNNNNNNcctFKNPDISNTS QhvhvhiqiHKSNSHSNIPSDN-INFCNKKY---DKNLSRS 258
Cdd:PTZ00470 5 REHLSVHNNADDNYNNNNNNNNNQN---SNPNNNNGNQ-----ASKLRPGKKQENpFNKIDIVEYyqneKLNLIKRR 73
.....*.....
seqsig_0f2436048220b55cac4ad807de3f046a 259 VEISEKDKH 267
Cdd:PTZ00470 74 ESVREAMKH 82
```

PF3D7_1113100 (PTZ00393)

Cd Length: 241 Bit Score: 413.95 E-value: 1.17e-147

```
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_b163281da6adf3ac483de9eeeb1a97d 1 MKSLENNEMHNLCPiHYHYFNGRD-----YNSDTIINNVIKYFNMDNCLGNANLHMDYLNPLVNHPT 62
Cdd:PTZ00393 6 DCSTLNCESHPCCNNRISGSSRGrdgvcsrassasipnigrRNCDDQVIHTVYVYKVFAMDSYLGNIYNNMDYLNPLVNHPT 85
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_b163281da6adf3ac483de9eeeb1a97d 63 KIEHGKIKILLDAPNDLLPLYIKEMKNYVTDLVRTCERTYNDGEIQDAGINVHLLIFPDGDAPTE DIVSNWLNIVNN 142
Cdd:PTZ00393 86 KIEHGKIKILLDAPNDLLPLYIKEMKNYVTDLVRTCERTYNDGEITSAGINVHLLIFPDGDAPTVDIVSNWLNIVNN 165
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_b163281da6adf3ac483de9eeeb1a97d 143 VIKNNCAVAVHCVAGLGRAPVLASIVLIEFGMDPIDAIVFIRD RRKGAINKRQLQFLKEYRKKKKKKNLKRKCHF 218
Cdd:PTZ00393 166 VIKNNRAVAVHCVAGLGRAPVLASIVLIEFGMDPIDAIVFIRD RRKGAINKRQLQFLKAYKKKKKKKNLKRKCHF 241
```

PF3D7_1127000 (PTPc)

Cd Length: 105 Bit Score: 34.64 E-value: 4.63e-03

```
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_af78b0293be0b7dcafbf98252903e9f2 197 NLINQIKDLKQKFNMTMKNTIffIHCRRGRDRGTGEFVSAYKMIEQNKDF 244
Cdd:smart00404 24 ELLRAVKKNLQSESSGPPV--VHCSAGVGRGTGFVAIDILLQLEAE 69
```

PF3D7_1455100

Cd Length: 139 Bit Score: 118.87 E-value: 3.59e-34

```
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_41bb8c3adb3efcf2f2d95547876cf902 1 MIQIIPYLYLGGKNDIDVENLKKNNIKaVVICCTYFEYEPYKIPNGYEILRINLEDIGLENISSYFEESNNFIHSYITK 80
Cdd:cd00127 2 LSEITPGLYGSYPAAASKELLLKGLIT-HVLNVAKEVPENLFLSDFNLYVPILDLPSQDISKYFDEAVDFIDDAREK 80
.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|.....*.....|
seqsig_41bb8c3adb3efcf2f2d95547876cf902 81 EQSVLICCCCHGISRSSTISIAYLIGRQNFLEAFNFI-MGKKNICPNIGFMEQLCEYE 138
Cdd:cd00127 81 GGVVLVHCLAGVSRSATLVIAYLIMKTLGLSLREAYEFVKSRRPIISPNAGFMRQLKEYE 139
```


seqsig_e70ab9377079b25c68bf8b910bf3acdf 716 DHPVSCCF 724
Cdd:cd09074 289 DHKPVRAF 297

PF3D7_1238600 (EEP, EEP) SPHINGOMYELIN

Cd Length: 280 Bit Score: 101.26 E-value: 1.13e-24

```
.....*.....
10 20 30 40 50 60 70 80
seqsig_3203ca97a7ab7b6d07d180340dabb34c 176 FHFVNGGVIVLSKHKILHKHALIYSSGKFPDVFCRGAIIYKCDVMNKV-NVVATHLQAGD-NKEQQCRWQIDELSK 253
Cdd:cd09078 78 SKLVVDGGVIVLSRYPIVEKQDYIFPNCGACLAARGVLYAKINKGGTKVYHVFVGHVTHLQASDgSCLDRAVRQKQLDELRA 157
90 100 110 120 130 140 150 160
seqsig_3203ca97a7ab7b6d07d180340dabb34c 254 WVEYEGIPstfIKKFFESLFFVGFNIRYNADRFLDKVLSdNYLNSY----VTKSLDTYDSPLNDYCRYIERDYNYKH 328
Cdd:cd09078 158 FIEEKN----IPDNEPVIIAGDFNVDKRSSRDEYDDML--EQLHDYnapapITAGETPLTWDPGTNLAKYNYPG-GGGE 230
170 180 190 200 210 220
seqsig_3203ca97a7ab7b6d07d180340dabb34c 329 KytLDYILVAN-----NSNVEIIVPQTSIQNYKSLYFIKFlgIipktyihhpSDHFPYIATF 389
Cdd:cd09078 231 R--LDYILYSndhlpqsSWSNEVEVPKSPVTSVNGYTFADL-----SDHYFVSAATF 280
```

Cd Length: 280 Bit Score: 52.34 E-value: 4.97e-08

```
.....*.....
10 20 30 40 50 60 70
seqsig_3203ca97a7ab7b6d07d180340dabb34c 12 LTMSYNTQMLSPFFSVHLNSW--TRRNAIDYicslddIYDIDILVNLVEVFTKCYKLLTSGKIKKFPYHTNVIQRN 88
Cdd:cd09078 1 LKVLTYNVFLLPPLLNNYGGDGDqERLDLIPKA-----LLQYDVVVLQEVFADARAKRLNLNG-LKKEYPYQTDVVGRRS 72
```

PF3D7_1430600 (AP, AP)

Cd Length: 309 Bit Score: 100.47 E-value: 4.61e-23

```
.....*.....
10 20 30 40 50 60 70 80
seqsig_54ebe5c5b0ecae34017419b1778c7528 8 SWNVNGWK--KSCEIIKRNdDdLVQFLKLLDIDILCLQETKTNESVIENDCNLLEAdsnmyESYWTCCKKKkgakthKGY 85
Cdd:cd09088 4 TWNVNGIRtrLQYQPNWKNES-LKSFLLSDDADIICLQETKLRDELDEPSAIVEG-----YDSFFSFRGR-----KGY 72
90 100 110 120 130 140 150 160
seqsig_54ebe5c5b0ecae34017419b1778c7528 86 SGLATYVKnenkiCSTNNVdfdfsfndyIKKEDLLkkkSEIDKTSISFFLLNDNKKIYNQNKIKCDKNDENhkkkn 165
Cdd:cd09088 73 SGVATYCR-----DSAATP-----VAEEGL---TGVLSNPNQKLNLENDIGCYGEMLEFTDSK-----125
170 180 190 200 210 220 230 240
seqsig_54ebe5c5b0ecae34017419b1778c7528 166 ktniSVSEFFNENGRILIMHKHFIIYNYIYAPY-SGHNYERLYYKRVFHAVRAKIIQLIVTGLPIILLGDFNISYRND 244
Cdd:cd09088 126 ---ELLLDSEGRCVLTDHGTFLVNVYCPRaDPEKEERLEFKLDFYRLLEERVEAL-LKAGRRVILVGDVNVSHRPID 200
250
.....*.....
seqsig_54ebe5c5b0ecae34017419b1778c7528 245 IYLLNINIINLDILLKNIH 262
Cdd:cd09088 201 HCDPDDSEDFGGSFEDN 218
```

Cd Length: 309 Bit Score: 56.56 E-value: 1.03e-08

```
.....*.....
10 20 30 40
seqsig_54ebe5c5b0ecae34017419b1778c7528 606 DNMIIDTFSFHPNPWCKFTCDWDTYRCRVHNEGSRIDYIFMD 647
Cdd:cd09088 240 GLLIDSFYFHPTRKGAICTWNTLTGARPTNYGTRIDYILAD 281
```

PF3D7_1363500 (DEADENYLASE)

Cd Length: 329 Bit Score: 65.40 E-value: 1.34e-11

```
.....*.....
10 20 30 40 50 60 70 80
seqsig_83f7859c0d0069614112e9852c948039 244 VFSFNILANslvdyKY---DNNGYN---IMQWMNRKKWIHQINMNKLSDIICLQETIE-ESYFIELKNELEKLFHFKGLFLK 316
Cdd:cd09097 1 VMCYNVLC-----KYatrQQYGYCpswALNWDYRQNILKEILSYNADILCLQEVETDQYEDFFLPELKHQHYDGVFKP 75
90 100 110 120 130 140 150 160
seqsig_83f7859c0d0069614112e9852c948039 317 K-----KKDTCCKDGICIFYNKVFELLPFDEVIYDKSCLlkkwhvglliaLRNIISKRIHFEFhennMNKKNYKN 388
Cdd:cd09097 76 KsraktmseAERKHVDGCAIFFKTSKFKLVEKHLIEFNQLAM-----ANADAGESSDMLNRV---MTKDNIAL 140
170 180 190 200 210 220 230 240
seqsig_83f7859c0d0069614112e9852c948039 389 ECdrILQNSNTHMNNKNNnnnnnknneni fnmcdIVIVSNTHLIFDSYKGDVKLYQIcyntyrILMMKKCINIIKKR 468
Cdd:cd09097 141 IV--VLEARETSYEGKQG-----LLIVANTHIHWDPFSDVKLVQT-----MMLLEELEKIAEF 194
250 260 270 280 290 300
seqsig_83f7859c0d0069614112e9852c948039 469 KKGNDNTNSDTSssscynykndslcpkddtflkpcIIVCGDFNITFNSLHYFIVNRPINLKHINLK 536
Cdd:cd09097 195 SRYFYEDSADIP-----LVVCGDFNSLFDGSGVYELLSNGVSPNHPDFK 238
```

Cd Length: 329 Bit Score: 39.59 E-value: 2.45e-03

```
.....*.....
10 20 30 40 50 60
seqsig_83f7859c0d0069614112e9852c948039 769 QIPFTVPHGKQKGCVDYIFYSYKNLKQVSYTNLPTFDK-LSYKGLPNQKYaSSDHLYLHA 828
Cdd:cd09097 266 ELPFTNYTPDFKGVIIYIFYSADTLVSLVGLLGPPEdWylNKVVVLPNPHF-PSDHIALLA 325
```

HAD Superfamily

PF3D7_0303200 (HAD, LIPIN_N, LNS2)

Cd Length: 139 Bit Score: 40.43 E-value: 4.75e-04

```
.....*.....
10 20 30 40 50 60 70 80
seqsig_303ed259024b135e13c073d1d2a60b61 947 IVISVDVDTITRstvlGHMIPVGRDWSHVGVSQLFNKINKNGYHILYLTAraiqgadSTREYLFRLKKNNDNKLDP-- 1023
Cdd:cd01427 1 AVLFDLGDTTLLDS---EPGIAEIELELYPGVKEALKELKEKGIKLALATNK-----SRREVLELEELGLDDYDFpvi 71
90 100 110 120
```


PF3D7_0726900 (NIF)

Cd Length: 153 Bit Score: 131.58 E-value: 3.31e-36

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      10      20      30      40      50      60      70      80
...*...|...*...|...*...|...*...|...*...|...*...|...*...|...*...|
seqsig_7b298445317b9151927ce631704eb6a7 322 PTLVIDLNYVI--AKLEYD-----RKTGWRVLRKRPYADRFKELSSFYEIVIVSDDNPFVAQEVISKW---GIPAIG 388
Cdd:pfam03031 1 KTLVLDLDETIVhSSFEpDlpfdvlnFNHGVYVKKRPGLEDFLQELSKYIEIVIFtASSKEYADPVLdKldpkKKYFKH 80
      90     100     110     120     130     140     150
...*...|...*...|...*...|...*...|...*...|...*...|...*...|...*...|
seqsig_7b298445317b9151927ce631704eb6a7 389 CLHRDQCskkkKSYVVDLKRGRNLDVVVIDHDAKAFMLQPEngILiKEFHGDLDKEMLCliDLKsFA 459
Cdd:pfam03031 81 RLYRESC----TFYVKDLsLGRDLsRVVIVDnsPRsFLlQPDNGIPIPPFYGDpDTEllKlLpFLKELA 147
```

PF3D7_0817400 (HAD)

```

      10      20      30      40
...*...|...*...|...*...|...*...|
seqsig_1flc29151dc8a7512f3e3c59917f48e6 114 FFDGTLIN-KHFSNNHKNNIIFDKERIPILNSLKKKYEIVVFSNQT 160
Cdd:cd01427 4 FDLDGTLIDsEPGIAIEIELELYP-GVKEALKElKEKGIKlALATnKS 50
```

PF3D7_1012700 (CPDc, GH47)

Cd Length: 148 Bit Score: 78.42 E-value: 2.29e-16

```

      10      20      30      40      50      60      70      80
...*...|...*...|...*...|...*...|...*...|...*...|...*...|...*...|
seqsig_9154e3039ce65ddeb4a4a22036346cbc 562 NVKYQKGIYIYKLRPGVIEFLRtMSEKYEIYLYTMGTLEHAKSCLFLDLPiRkFFGNrVfSRKDCl---NSLKHlNK 637
Cdd:smart00577 32 PVLIDGHPHGVYVKKRPGVDFELKRASELFELVVFTAGLRMYADPVLdLlDP-KKYfGYRrLFRDcVfVkgKYVkdSL 110
      90     100     110     120
...*...|...*...|...*...|...*...|
seqsig_9154e3039ce65ddeb4a4a22036346cbc 638 ILPTYRSVSIcIDDSYIw---KENSsCikVHGYNfYFDIN 675
Cdd:smart00577 111 LNRDLsKVIi-IDDSpDSWpFhPENL--IPIKFWGDpDDT 148
```

Cd Length: 522 Bit Score: 44.71 E-value: 1.41e-04

```

      10      20      30      40
...*...|...*...|...*...|...*...|
seqsig_9154e3039ce65ddeb4a4a22036346cbc 432 NININVNNNNNNNNNNNNNNNNNNYNNNNNNYNNNNNNNNNNNNNNNNNNNNNN 479
Cdd:PTZ00470 1 NVNlREHLSVhNNADdYNNNNNNNNNNQINsNNPNNNGnNQASklPRGK 48
```

PF3D7_1118400 (HAD, HAD_2)

Cd Length: 139 Bit Score: 47.36 E-value: 4.02e-07

```

      10      20      30      40      50      60      70      80
...*...|...*...|...*...|...*...|...*...|...*...|...*...|...*...|
seqsig_d6fc9c1850fa52c1d7d49d98027dca74 134 ISPTLEYLRELKNGYILGAIrTNGDSD-----VNEIKFLNEIFs-----FVVRsMDYnFAKPNVeiFNI 193
Cdd:cd01427 25 LYPGVKEALKElKEKGIKlALATnKSRRevlleeeLGLDDYfDPVITsngaaiiypPkgLFLGGGPFfDIGKPNpDRKLLA 104
      90     100     110     120
...*...|...*...|...*...|...*...|
seqsig_d6fc9c1850fa52c1d7d49d98027dca74 194 AENLLKEKniFhVDEWHLVGDdVYtDIMGAKnKNINCAWI 234
Cdd:cd01427 105 ALKLLGVd-----PEEVLmVGDS-LNDIEMAKAAGGLGVAV 139
```

Cd Length: 176 Bit Score: 68.13 E-value: 4.05e-14

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      10      20      30      40      50      60      70      80
...*...|...*...|...*...|...*...|...*...|...*...|...*...|...*...|
seqsig_d6fc9c1850fa52c1d7d49d98027dca74 26 ITPDLdHTIWNIDALNnyadnecykymeqnYKRLYDYLsKEYALsMTNlVKEllERNIDMNKdgvqilrirtDALKYLA 105
Cdd:pfam13419 1 IIFDLdGTLIDfDPVii-----FEALRDlAERLGLDISA---EELREAGGLPFd-----EALADLl 53
      90     100     110     120     130     140     150     160
...*...|...*...|...*...|...*...|...*...|...*...|...*...|...*...|
seqsig_d6fc9c1850fa52c1d7d49d98027dca74 106 KQTNYDeikfASEIQLWKE--KKKDVHLfIsPGTLEYLRElKNGYIILGAIrTNGDSdVNEIKF---LNEIFsFVVRsM 179
Cdd:pfam13419 54 REHPID---PDEILeALLEynLESRLPEF--PDVVElLRRLKAKGVKlVLlSNGSREAVERLLeKlglLDLFDVAVtSD 127
      170    180    190    200    210
...*...|...*...|...*...|...*...|...*...|
seqsig_d6fc9c1850fa52c1d7d49d98027dca74 180 DYNFAKPNVeiFNIAENLlEknINfHVDWHLVGDdVYtDIMGAKnKNINCAWI 234
Cdd:pfam13419 128 DVGARKPFDEAYERVLERLr----GLPPEEILfIDDSPE-DLEAARAAGIKTVHV 176
```

PF3D7_1226100 (HAD, Yrb1, Hydrolase)

Cd Length: 139 Bit Score: 40.82 E-value: 6.95e-05

```

      10      20      30      40      50      60      70      80
...*...|...*...|...*...|...*...|...*...|...*...|...*...|...*...|
seqsig_02abc89cb7f300b4793a2519d6dcc2a7 22 LIAIDIDGTLADDTG-----KISDENLKAIEVCKGGIEIILASGRlHSYAMKMFtNEQIEKYKiekldGVYS--HG 91
Cdd:cd01427 1 AVLFdLDGTLIDSEPGiaieeelELYPGVKEALKElKEKGIKlALATnKSRRevlleeeLGLDDYf---DPVITsngA 76
      90
...*...|...*...|
seqsig_02abc89cb7f300b4793a2519d6dcc2a7 92 AYIHMKGyDYVYRKFSY 108
Cdd:cd01427 77 AIYYPKEGLfLGGGPF 93
```

Cd Length: 154 Bit Score: 41.74 E-value: 4.36e-05

```

      10      20      30      40      50      60
...*...|...*...|...*...|...*...|...*...|
seqsig_02abc89cb7f300b4793a2519d6dcc2a7 248 QFYRINlNNILsIGNDDNDIEllsSTGfSVAVKNSrPRALQVARCvSTKtNNENAVANIi 307
Cdd:TIGR01670 86 EKLALAPENVAyIGDDLIDWPVMEKVGLSVAVADAHPLliPRADYVTRIAGGRGAVREVC 145
```

Cd Length: 254 Bit Score: 152.39 E-value: 7.54e-44

```

      10      20      30      40      50      60      70      80
...*...|...*...|...*...|...*...|...*...|...*...|...*...|...*...|
seqsig_02abc89cb7f300b4793a2519d6dcc2a7 23 IAIDIDGTLADDTGKISDENLKAIEVCKGGIEIILASGRlHSYAMKMFtNEQIEKYKiekldgVYSHGAYIHM-KGYDY 101
```


Cd Length: 234 Bit Score: 48.51 E-value: 2.54e-06

```

          10      20      30      40
    .....*.....*.....*.....*.....*.....
seqsig_8a6e1114bbb7d4e73c2c4b8f0f00d0e4 285 NKNENYNNDDDDNNDDDDNNDDNNDDNNDDNNDDNNDDNN 327
Cdd:pfam09849 191 INNYYGDDSDAAGGQGSNGDDDDGGFADSGYDDDDMDDDDD 233

```

Cd Length: 234 Bit Score: 43.89 E-value: 9.26e-05

```

          10      20      30
    .....*.....*.....*.....
seqsig_8a6e1114bbb7d4e73c2c4b8f0f00d0e4 596 NNDDDDVNDVDDVDDVDDVDDVDDVDDVDDVDDVDDVDDV 633
Cdd:pfam09849 196 DDSDAAGGQGSNGDDDDGGFADSGYDDDDMDDDDD 233

```

Cd Length: 522 Bit Score: 39.32 E-value: 4.42e-03

```

          10      20      30      40      50      60      70      80
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_8a6e1114bbb7d4e73c2c4b8f0f00d0e4 304 NNDDDDNNDDNNDDNNDDNNDDNNDDNNDDNNDDNNDDNNDDNN 382
Cdd:PTZ00470 1 NVNLRHLSVHNNADDNYNNNNNNNNQINNNPNNNGNQASKLPRGKKKQENPFNKIdEVYQYNEKLNIRKRESVREAM 80
.....*
seqsig_8a6e1114bbb7d4e73c2c4b8f0f00d0e4 383 KESEEK 388
Cdd:PTZ00470 81 KHAWEG 86

```

Cd Length: 252 Bit Score: 124.79 E-value: 2.05e-31

```

          10      20      30      40      50      60      70      80
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_8a6e1114bbb7d4e73c2c4b8f0f00d0e4 690 NKRENEDFYITKDIIDLNNVSESGlcfYSGIFDGHGGSNCARYVMNHLKTNvIAKFRQSLItckkkfkegsklineLS 769
Cdd:pfam0481 11 FRKFMEDAHIAGKNLNASSGKDSFG---FFAVFDGHGGSQAAYAGKHLET--ILALRRSFL-----TL 69
          90      100      110      120      130      140      150      160
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_8a6e1114bbb7d4e73c2c4b8f0f00d0e4 770 VELRALYDSCIKGFDMTDknyiellSKKYNKYD---GSTACIVLIYgpdggsLKVLCANCGDSGAFICHNKKPK-LSLR 845
Cdd:pfam0481 70 KLDLALRKSFLADEELR---SDAANHEDlssGSTAVVALIRG---QKLYVANVGDSRAVLCRNGNAIKqLTED 137
          170      180      190      200      210      220      230      240
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_8a6e1114bbb7d4e73c2c4b8f0f00d0e4 846 HKPDLQERIRILKCGGliaNININRItkhhkdrnnlennNNkskektflaLSTSRSGFDISYKIPR-KIVQCKPFIS 924
Cdd:pfam0481 138 HKPSNEDEERRIRIAGG---FVSRNGRV-----NGV-----LAVSRAFGDFELKKGKqQPVSAPDPVT 192
          250      260      270      280      290      300
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_8a6e1114bbb7d4e73c2c4b8f0f00d0e4 925 VYTIIDfDLDSFLVLATDGIILNVLSDEEIIDIIWKNIH-RKFEQAABEVVNEATRGGSTDD 983
Cdd:pfam0481 193 SHKIT-ESDEFLILASDGLWDLVLSQEVVDIVRSELSdGSFMEAAEKLVDEATAIGSEDN 251

```

PF3D7_1309200 (PP2C, GH47)

Cd Length: 254 Bit Score: 160.95 E-value: 2.04e-44

```

          10      20      30      40      50      60      70      80
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_e0961706ec69eade5d623b82e5680c1f 544 ISVACKKGGKvdfPNQDDFTII--QTNWILIMVFDGHGpsGHDISNFVHVVLPLFLSYNIEKIYENPVRTMKTlfYMI 620
Cdd:cd00143 3 AGVSDKGGDRK--TNEDAVVIKpnlNNEEDGGLFGVFDGHG--GHAAGEFASKLVEELLELEETLTLEEDIEE--ALR 76
          90      100      110      120      130      140      150      160
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_e0961706ec69eade5d623b82e5680c1f 621 NCYLvnsycINNNINPININFIDYNSGTTCTIIlynFITKKIYSAHTGDSRAVMGKQnpqtnkfSAYNITEDHKPSLK 700
Cdd:cd00143 77 KAFLR---ADEEILEEAQDEPDARSGETTAVVAL--IRGNKLYVANVGDSRAVLCRNG---EAVQLTKDHKPVNE 143
          170      180      190      200      210      220      230      240
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_e0961706ec69eade5d623b82e5680c1f 701 LEKDRILAFGGEVKKLHgdvayrvfvkdeMYPGLAMSRAIGDiTSSFIgVTCPTIKILDKLEEDKFIIVATDGIWEFIS 780
Cdd:cd00143 144 EERERIEKAGGRVSNR---VPGVLAVTRALGD-FDLKPGVSAEPDVTVVKLTEDDDFLILASDGLWDLVLS 210
          250      260      270      280
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_e0961706ec69eade5d623b82e5680c1f 781 SEECVQMQSKKKKkVhiAMEEIIKESWRRARIDTVDMDTLVLIYF 827
Cdd:cd00143 211 NQEAVDIVRSELAKE---DLQEAQELVDLALRSGSHDNI TVVVVRL 254

```

Cd Length: 522 Bit Score: 39.32 E-value: 3.89e-03

```

          10      20      30
    .....*.....*.....*.....
seqsig_e0961706ec69eade5d623b82e5680c1f 167 HVNYKNEKREYDNNNNNNNNNNNNNIFSNNNCNNS 203
Cdd:PTZ00470 1 NVNLRHLSVHNNADDNYNNNNNNNNQINNNPNNNG 37

```

PF3D7_1138500 (PP2C, PP2C, GH47, PP2C)

Cd Length: 254 Bit Score: 166.73 E-value: 3.53e-46

```

          10      20      30      40      50      60      70      80
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_490942f1fa1b126783a87d8ec888dd58 626 YSCGSTALVAVILKGYLIVANAGDSRAIVCFNGNSLGMSTDHKPHLQTEEARIKKAGGYIANGRVdGNLNLTRAIGDLHY 705
Cdd:cd00143 97 ARSGTAVVALIRGNKLYVANVGDSRAVLCRNGEAVQLTKDHKPVNEEERERIEKAGGRVSNRPGVLAVTRALGDGFDL 176
          90      100      110      120      130
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_490942f1fa1b126783a87d8ec888dd58 706 KrdpflpqkdQKISAFPEITCVTLTPEDEFLLACDGIWDCCKDQDVGFGVFKTRLEK 762
Cdd:cd00143 177 K-----PGVSAEPDVTVVKLTEDDDFLILASDGLWDLVLSNQEAVDIVRSELAKE 224

```

Cd Length: 254 Bit Score: 80.06 E-value: 1.30e-16

```

          10      20      30      40      50      60      70      80
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_490942f1fa1b126783a87d8ec888dd58 26 RYGLSCMQGWRKNNMEDAHICYnnlkfNEIEDVSIYGVFDGHGPNVSKWISYNFRriFirdlkeaneEMIKNNMRSEN 105
Cdd:cd00143 2 SACVSDKGGDRKTNEDAVVIK---PNLNNEEDGGLFGVFDGHGHAAGEFASKLLV-----EELLELEETLT 65
          90      100      110
    .....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_490942f1fa1b126783a87d8ec888dd58 106 YKLLKIKLTKETFLKLDDEMLLSENQEKLLKYS 139
Cdd:cd00143 66 LSEEDIEEALRKAFLRADEEILEEAQDEPDARS 99

```

Cd Length: 522 Bit Score: 39.71 E-value: 3.24e-03

```

          10      20      30
.....*.....*.....*.....*.....*.....
seqsig_490942f1falb126783a87d8ec888dd58 206 NQDQPEHNQLYEDGNDDNNNNNNNNNNNNISPNLYGTN 244
Cdd:PTZ00470 1 NVNLRREHLSVHNNADDNNNNNNNNNNQINSNNPNNGNN 39

```

Cd Length: 252 Bit Score: 156.76 E-value: 1.21e-42

```

          10      20      30      40      50      60      70      80
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_490942f1falb126783a87d8ec888dd58 598 DDCNGVYSSEELRLFENYYSNDYEDNIaySCGSTALVAVILKGYLIVANAGDSRAIVCFNGNSLG-MSTDHKKPHLQTEEA 676
Cdd:pfam00481 70 DKLDALRKSFLAEDEELRSDAANHEDL--SSGSTAVVALIRGQKLYVANVGDRAVLCRNGNAIKqLTEDHKKPSNEDERR 147
          90     100     110     120     130     140     150     160
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_490942f1falb126783a87d8ec888dd58 677 RIKKAGGYI-ANGRV DGNLNLTRAIGDLHYKrdpflPQKDQKISAFPEITCVTLTPEDDFLFLACDGIWDCKDQDQVGVGF 755
Cdd:pfam00481 148 RIRGAGGVSrNGRVNGLAVSRAFGDFELK-----KGRQPVSABFDVTSHKITESDEFLILASDGLWDVLSLQEVVVDI 222
          170     180     190     200     210     220
.....*.....
seqsig_490942f1falb126783a87d8ec888dd58 756 VKTRLEK 762
Cdd:pfam00481 223 VRSELSL 229

```

PF3D7_1455000

Cd Length: 254 Bit Score: 184.84 E-value: 3.69e-55

```

          10      20      30      40      50      60      70      80
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_a5b97053d8b55da50f7c5abd9409fa51 21 HVCAGTMQGYRATEDAVTILASLKNfPSCRMCTIFDGHIGKETALYCA---RNIADFIGNCTLDVNNITNAC---I 92
Cdd:cd00143 2 SAGVSDKGGDRKTNEDAVVIKPNLNN-EDGGLFGVFDGHHGAAGEFASklvEELLELEETLTLSEEDIIEALrkafl 80
          90     100     110     120     130     140     150     160
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_a5b97053d8b55da50f7c5abd9409fa51 93 QMDNEILNSNAFHN----GSTAIITAIIEKlinkdfFKLYICNLGDSRAMLIKkGSPISLSEDHKPYNKKEKERIYKIG 167
Cdd:cd00143 81 RADEEILLEEADQDEPddarsGTTAVVALIRG-----NKLYVANVGDRAVLCRN-GEAVQLTKDHKPFVNEEERERIEKAG 153
          170     180     190     200     210     220     230     240
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_a5b97053d8b55da50f7c5abd9409fa51 168 GFVENGRILGYIGVRSRFGDKNYKIkscdcpynphetMISCIPIKIFY-ANCDLILFGCDGLFEMLSWNVDAKFTYDCM 246
Cdd:cd00143 154 GRVSNRVPVGLAVTRALGDFDLKP-----GVSABFDVTVVVTLTBDDEFILILASDGLWDVLSNQEAVDIVRSL 222
          250     260     270
.....*.....*.....*.....
seqsig_a5b97053d8b55da50f7c5abd9409fa51 247 NRHTLSDAVINILDYALLSGSKDNITIQIIF 278
Cdd:cd00143 223 AKEDLQEAQELVDLALRRGSHDNIIVVVVRL 254

```

MPP Superfamily

PF3D7_0107800 (MPP, MPP, Mre11, Mre11)

Cd Length: 223 Bit Score: 94.74 E-value: 2.58e-21

```

          10      20      30      40      50      60      70      80
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_04f45037ed66a56e4dcd4c97497968d2 693 FKKL----IPFYTIHGNDHPYSYEIISPLDIINisnlinYIGKNNLNNVVKPILLNKYKSKISLYAVGMKDERLYRS 768
Cdd:cd00840 69 LRRLkeagIPVFIAGNHSFSRLGALSPLLALS-----GLHLVGEEDVLTPLLLPKGGTVAIYGLPYLRRSLRDL 142
          90     100     110     120     130     140     150     160
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_04f45037ed66a56e4dcd4c97497968d2 769 FENNEvkFILPSDYKNRINILVHQNRYIRNAYGNNTKRFIKESFIPKFDLVIWGHHEHsKPYLEESILNSFYNIQLGS 848
Cdd:cd00840 143 LADAE--LRPRPLDPDFNILLHGGVAGAGPSDSERAPFVPEALLPAGFDYVALGHII--RPQIILG--GGPIVYVPGS 216
          170     180     190     200     210     220
.....*.....
seqsig_04f45037ed66a56e4dcd4c97497968d2 849 SVRTSI 854
Cdd:cd00840 217 PEGLSF 222

```

Cd Length: 223 Bit Score: 73.17 E-value: 2.53e-14

```

          10      20      30      40      50      60      70
.....*.....*.....*.....*.....*.....*.....*.....
seqsig_04f45037ed66a56e4dcd4c97497968d2 352 KILLCTDNHLGKKNNSIQ---KKDSFNSFBEILFIAKKNLNDMLNSGDLPHKNKVSSEYTLFKSMYIIRKYCHIN 424
Cdd:cd00840 1 RFLHTADWHLGKPLKGLSRdrREDDQFEAFBEIVELAIIEEKVDFVLIAGDLFDSNNPSPALPELLLEALRRLKEAG 76

```

Cd Length: 166 Bit Score: 48.34 E-value: 1.61e-06

```

          10      20      30      40      50      60
.....*.....*.....*.....*.....*.....*.....
seqsig_04f45037ed66a56e4dcd4c97497968d2 1032 EKFLKIKVEY- DDVNIINTQLFGSLFINSIANPSEFLSFKYKRIQRDIYNNNDNNDIND 1093
Cdd:pfam04152 65 PLFLIRLRVQYsGGFEVENPQRFGQRFVGVANPNDILQFYKPKKKTTKTKTEEDDPDEEL 127

```

Cd Length: 166 Bit Score: 41.79 E-value: 2.59e-04

```

          10      20      30      40      50
.....*.....*.....*.....*.....*.....
seqsig_04f45037ed66a56e4dcd4c97497968d2 874 FRFLKINLETVRPFEMKDIKLADYELNFKS---ESVLKefLHEQTHALEKIKNNFSHE 929
Cdd:pfam04152 1 FRLTPIPLKTVRPFVMEVVLSEELALDpndkDEVTK-FLIEKVEEMIIEAKEEWLLEL 58

```

PF3D7_0314400 (PP2A_PP4_PP6)

Cd Length: 285 Bit Score: 508.30 E-value: 0e+00

```

          10      20      30      40      50      60      70      80
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_0de7cb891a67efe427d37d54736c57d5 8 KWIEQLRNNppKLLDESRLVLCQRVKEILVENNVSQIKPVIICGDIHQGFDDLELFDVGGDIMNNNDYIFLGDYVDR 87
Cdd:cd07415 4 KWIEQLKKC--ELLPESEVKSLECKAKEILLVKESNVQRVRSFVTVCGDIHQGFYDLELFRVGGDPPPTNYLFLGDYVDR 81
          90     100     110     120     130     140     150     160
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....
seqsig_0de7cb891a67efe427d37d54736c57d5 88 GYNSVETFEYLLLLKLLFPKNITLLRGNHESRQITTVYGFYDECFKKGYNANAWKYCTDIFDYLLTAAALVDNQIFCVHGG 167
Cdd:cd07415 82 GYNSVETFLLLLLKLVRYFDRITLLRGNHESRQITQVYGFYDECLRKYGNANWVKYCTDIFDYLLTAAALVDNQIFCVHGG 161
          170     180     190     200     210     220     230     240
.....*.....*.....*.....*.....*.....*.....*.....*.....*.....*.....

```



```

          90          100          110          120          130          140          150          160
seqsig_68ce03ae104ba33302ba77bd3b5d16de 844 qekfrasFIFIDTWALMVGFPFI-----RNYRAFREQFNWLSKTLyeSAKKSDFVVGHHPLISSGRSDNysyeeHS 917
Cdd:cd07378 123 -----FIMIDTVPLCGNSDDIaspygpPNGKLABEQLAWLEKTL--AASTADWKIVVGHPIYSSGEHGPT----SC 188
          170          180          190          200          210          220          230          240
seqsig_68ce03ae104ba33302ba77bd3b5d16de 918 FHDIIIRDPLFNHYVDAVYFAHDLHMEYIKFG--SVDLFINGSSSRVLFdnssmrgyfgkiigklyplscyvlKTIHTGL 995
Cdd:cd07378 189 LVDRLPLPKKYKVDAYLSGHDHNLQHIKDDgsGTSFVVSAGASKAR-----PSVKHIDK 243
          250          260          270
seqsig_68ce03ae104ba33302ba77bd3b5d16de 996 KPKGNCInryskWYNKSDIGFSTHKLTKDELVTQFISSR 1034
Cdd:cd07378 244 VPQFFS-----GFTSSGGGFAYLELTKEELTVRFYDAD 276

```

Cd Length: 198 Bit Score: 39.36 E-value: 2.79e-03

```

          10          20          30          40          50          60          70          80
seqsig_68ce03ae104ba33302ba77bd3b5d16de 1244 KKKKEKKNENEQEAEETEVEVEIdelkemekkrkESEGDITGEDNEIKEEQKDNEKEDTYEEYLDSEgyndeEIP 1323
Cdd:pfam03286 68 SKKKDKKELTEEKKPESDDDKTEE-----NENDPDNNEESGDSQESASANSLSDIDNEDMDDS-----DLK 130
          90          100
seqsig_68ce03ae104ba33302ba77bd3b5d16de 1324 LV-QVHKDFKLANQEKKLS 1343
Cdd:pfam03286 131 LA+ENIKDLKLNARVSAYS 151

```

PF3D7_1466100 (Bsu1, Kelch, Kelch, Kelch, Kelch)

Cd Length: 311 Bit Score: 586.68 E-value: 0e+00

```

          10          20          30          40          50          60          70          80
lcl|local_MNNGSFKETS 522 IITLLNPNITQfeiqynHNSSEIPIIPWANSVLCISIVDIFKQEDMVLKLRAPIKIYGDHIGQYYDLMRMFQLYKCPV 601
Cdd:cd07419 1 IITHLLKPRIWK-----PPTDRRFFFNWNEILELCDAEDIFKQEPVLRAPIKIFGDIHGQFGDLMLRFDYEGSPV 74
          90          100          110          120          130          140          150          160
lcl|local_MNNGSFKETS 602 EEdlgeklnAIGDIDSNDYFLGQYVDRGNSLEVICLLFALKCKYKQIHLIRGNHEDVAINSLYGFQECKERRLKEDV 681
Cdd:cd07419 75 TE-----AAGDIEYIDYFLGQYVDRGNSLETICLLALKVKYYPNQHILIRGNHEDRDINALFGFEECKERLGEDP 147
          170          180          190          200          210          220          230          240
lcl|local_MNNGSFKETS 682 TKDSCWYQINQVFEWLPIGAIVEDKILCVHGGIGKSNINQSDISQLKRPLVvsqvPQNLEQKVTDLLWSDPDNDNLSIL 761
Cdd:cd07419 148 NGDGSRVRRINRLFEWLPAAIIEDKILCMHGGIGRSINHVSEIEDLKRPL-----TMEFGEQVMDLLWSDPDENDSVL 222
          250          260          270          280          290          300          310          320
lcl|local_MNNGSFKETS 762 GTIPNDIrdPDGTGHIVKYGPDVHVKFLEENDLQLIIRAHECVMDGFERFAGKLIITLFSATNYCNHKNAGALLFIRRD 841
Cdd:cd07419 223 GLRPNAI-rDPRGPGILIVKFGPDRVHVKFLEENDLQMIIRAHECVMDGFERFAGKLIITLFSATNYCGTAGNAGAILVLGRD 301
          330
lcl|local_MNNGSFKETS 842 LTVIPKLIYP 851
Cdd:cd07419 302 LTIIPKLIHP 311

```

Cd Length: 48 Bit Score: 44.59 E-value: 6.40e-06

```

          10          20          30          40          50
lcl|local_MNNGSFKETS 35 NNKVAIFGGAIGDAGKYNitddIYLYDLTONKWKLitENTPSARAAHAAACV 87
Cdd:pfam13415 1 GGIYVFGGLGDDGTRLN---DLWVYDLDTNTWEKL--GDLPGRAGHAATVI 48

```

Cd Length: 42 Bit Score: 43.75 E-value: 1.37e-05

```

          10          20          30          40
lcl|local_MNNGSFKETS 75 TPSARAAHAAaCVDEQQLVIYGGATGGGSLDDLYILDLR 115
Cdd:pfam13854 1 LPVPRANHCA-VVVGGEIYLYGGYTSNGQSSDDVYVLSLP 40

```

Cd Length: 48 Bit Score: 43.13 E-value: 2.13e-05

```

          10          20          30          40
lcl|local_MNNGSFKETS 249 RYQHTSVFIGSKIFILGGRNDNGCAVPLSTALYNTETIEWVTLPSI 294
Cdd:pfam07646 2 RYPHASVVVGGKLYVVGSTGLGDLSSSDLVLDPEITNVVWTELPAL 47

```

Cd Length: 49 Bit Score: 56.11 E-value: 6.86e-10

```

          10          20          30          40
lcl|local_MNNGSFKETS 24 PRFGHTATYLGNNKVAIFGGAIGDAGKYNitdIYLYDLTONKWKKL 70
Cdd:pfam13418 1 PRAYHTSTSIGDRLYLFGGENEDGSVLS---DVVWFDLSTNTWTRL 44

```