

Homo sapiens 1 -----MAGVKAVALSFSGATGLTFLLMGCALLEDYGVYWPFLVLIFFHATSPIPHFIA---KRVTYD---SDAT- 62
Mus musculus 1 -----MAGVKAVALSFSGATGLTFLLMGCALLEDYGVYWPFLVLIFFYVLSPIPYFIA---KRVTYD---SDAT- 62
Gallus gallus 1 -----MAGIKALVGLSFSGATGLTFLLMGCALLEYGVYWPFLVLIFFYFCPIPHFIA---RRVSD---SDAA- 62
Xenopus laevis 1 -----MAGIKALVALSFSGATGLTFLLMGCALLESYKVYWPFLVLIFFYFISPIPYFIA---TRISDD---TDA- 62
Tetraodon nigroviridis 1 -----MAGIKALVGLSFSGATGLTFLLMGCALLEYGVYWPFLVLIFFYVLSPIPTFIS---RRLSDD---DSS- 61
Danio rerio 1 -----MAGIKALVALSFSGATGLTFLLMGCALLESYGVYWPFLVLIFFYVLSPIPTLTA---RRHADD---TES- 61
Homo sapiens 1 -----MAGIKALISL SFGGATGLMFLMGCALPIYNYWPLFVLIFFYILSPIPYCIA---RRLVDD---TDAM- 62
Mus musculus 1 -----MAGIKALISL SFGGATGLMFLMGCALPIYNYWPLFVLIFFYILSPIPYCIA---RRLVDD---TDAM- 62
Gallus gallus 1 -----MAGIKALISL SFGGATGLMFLMGCALPQYNYWPLFVLIFFYILSPIPYCIA---RRLVDD---TDAT- 62
Xenopus laevis 1 -----MAGIKALISL SFGGATGLMFLMGCALPQYNYWPLFVLIFFYILSPIPYCIA---RRVDD---TDA- 62
Tetraodon nigroviridis 1 -----MAGIKALISL SFGGATGLMFLMGCALPVYDKYWPLFVLIFFYILSPIPYCIS---RRVDD---TDSA- 62
Danio rerio 1 -----MAGIKALISL SFGGATGLMFLMGCALPVYNYWPLFVLIFFYILCPLPHCIS---RRVDD---SDSA- 62
Caenorhabditis elegans 1 -----MGGVRAAALAFAGVGLTFLLVLCALPRYGTWTPMVFITFYVLSVPVLLIA---RRFQED---MTG-- 61
Schistosoma japonicum 1 -----MTGVKTVIFVSLAASISFTFLLCALPQYVWVWPLFMIFFYIAPVPLLA---KNCQN----- 57
Tribolium castaneum 1 -----MAGIKTLVTLAFSTGLMFLMGCALPQYNYWPLFVLIFFYILSPIPTLTA---RRYTEH---QGS- 61
Rhodnius proxilus 1 -----MPGKMAVSLAFAGSTGMTIILACALPHGVWVWPIVVIFFYIFAPVPTLA---RKYTER---TGS- 61
Anopheles gambiae 1 -----MAESLKGVMLAMLSGMTMILACALPTNLWVPIFVLIFFYILCPFTLTA---KRIESD---DPA- 59
Drosophila melanogaster 1 -----MATLKAIFICAFITCIGVTFLLACAVPTTKIFYPFFVLLFYVLSVLPVFA---RRTPG---NE- 60
Arabidopsis thaliana 1 -----MGKLAFLAILVLSIVLQILACAL---FNNWVPLMSVIMYVLLPMLLFFG---GSDSTS---LFNES- 59
Oryza sativa 1 MARSMTCLHSGRALLATLVSGLVQLILACAL---YNNWVPLMLYILPMLLFFL---RGSNPS---MMSND- 69
Arabidopsis thaliana 1 -----MAMTIEVLAGLAFMFSSILLQILACAL---YGNWVPLMSALMYVVPMPCMFFG---GGSTQF---LISRD- 63
Oryza sativa 1 -----MAMTIEVLAGLAFMFSTILLQILACAL---YNNWVPLMALMYVLPMPCLFFG---GGSTQF---LTSRD- 63
Dictyostelium discoideum 1 -----MG---HDKGFSCAFVGLLNFILACTIVS---HSGYPIIVVASYFLAPFPNLC---RNRDS---FSSE- 57
Leishmania major 1 -----MSSLRQLIISAFLLVGFLLILGCTVVKRRAVPLMSLAFYCFAPVFFLFCG---RGADSDDFNDFDEP 68
Schizosaccharomyces pombe 1 -----MSDLRKLIGLSSVLAIVGFMLVILSCAL---FKWVYPLLVIPFLLAPLPNLT---KKYSTSHDFLQEE- 63
Saccharomyces cerevisiae 1 --MMEFKVSPITKISLSGFLAGFLLVILSCAL---FHNYPLFDLILFLLAPIPNTIFNAGNKYHTS---DFMDS- 74
Neurospora crassa 1 -----MAAGLKTIALSFVLAIVGFLLVILSCAL---WKAYYPLLVVATYVLAIPINWIC---SHCANPDDFVESS- 68
Magnaporthe grisea 1 -----MPNAGLKTIALSFVLAIVGFLLVILSCAL---WKVYVPLLVVATYVLAIPVNWIA---RSCSNPDDFVESS- 69

Homo sapiens 63 SSACRELAYFFTTGIVVSAGFPVILARVA---VIKWGACGLVLAGNAVIFLTIQGFLLVFGGDDFSWEQW-- 131
Mus musculus 63 SSACRELAYFFTTGIVVSAGFPVILARVD---VIKWGACGLVLAGNAVIFLTIQGFLLVFGGDDFSWEQW-- 131
Gallus gallus 63 SSACRELAYFFTTGIVVSAGFPVILARVE---AIKWGACGLVLAGNAVIFLTIQGFLLVFGGDDFSWEQW-- 131
Xenopus laevis 63 SSACRELAYFFTTGIVVSAGFPVILARIG---VILWGACGLVLAGNAVIFLTIQGFLLVFGGDDFSWEQW-- 131
Tetraodon nigroviridis 62 SNACRELAYFLTTGIVVSAGFPVILARKE---TIQWGACGLVMTGNVIFLTIQGFLLVFGGDDFSWEQW-- 130
Danio rerio 62 SNACRELAYFLTTGIVVSAGFPVILARKE---VIQWGAAGLVMAAGNCFVFLTIQGFLLVFGGDDFSWEQW-- 130
Homo sapiens 63 SNACKELAIFFLTGIVVSAGFPVIFARAH---LIEWGACALVLTGNTVIFATILGFFLVFGSNDDFSQQW-- 131
Mus musculus 63 SNACKELAIFFLTGIVVSAGFPVIFARAH---LIEWGACALVLTGNTVIFATILGFFLVFGSNDDFSQQW-- 131
Gallus gallus 63 SNACKELAIFFLTGIVVSAGFPVIFARAE---LIYWGACALVLTGNTVIFATILGFFLVFGSNDDFSQQW-- 131
Xenopus laevis 63 SNACKELAIFFLTGIVVSAGFPVIFARIQ---MIEWEACALVLTGNMVFSTILGFFLVFGSNDDFSQQW-- 131
Tetraodon nigroviridis 63 SNACKELAIFFLTGIVVSAGFPVIFARAA---VIAWGACALVLTGNVIFATILGFFLVFGSNDDFSQQW-- 131
Danio rerio 63 SNACKELAIFFLTGIVVSAGFPVIFARAA---VIAWGACALVLTGNVIFATILGFFLVFGSNDDFSQQW-- 131
Caenorhabditis elegans 62 TNACLELALFITTGIVISAFALPVLARAG---TIANSAFCFLVNTGSVIMFGTIIAYFYLRHDDSGSWSQSLF 132
Schistosoma japonicum 58 SSSSEDLVFLTTTIVTSAYALPILFARAPKNPLIFWGACGLT SANTLMFATIFFLVYLVVKKPDDFGIGF--- 129
Tribolium castaneum 62 SNCLETAIFLTMGLIVSFAFALPVLARAV---IQWGACYLTLAGNVVIFATILGFFLVFGGDDDFSQQW-- 129
Rhodnius proxilus 62 TNSTMELAIFFITMAFVVSFALPVLARAPVTKPAIEWGACYLTLTGNIVVYITVIGFFVTLYQDDSD-YNMW-- 133
Anopheles gambiae 60 R---AASAMFATIGIVMSFALPVLARAEV---IQWGACLLTLAGNVGAYATILAYYFGFESGDS---NMW-- 125
Drosophila melanogaster 61 TNPKSFAHFLTAGMVL SAFALPVLARAL---VITWTASILTISNIINYGTFWYAMRDDEPYG---SMF-- 126
Arabidopsis thaliana 60 DNSWINAAKFLTGASAVGSVAIPSLKAG---LIGWGALALDSSYVFLVAIILGYICIGDASNYYSYI--- 127
Oryza sativa 70 GDTWYNFTKFLTGASIVGSIAIPSLKAG---VIGWALTMLSSFLVFGVATILGFFLVFGSNDDFSQQW-- 136
Arabidopsis thaliana 64 GGGWIDAAKFLTGASTVGSIAIPILRAQ---MIETGAMLI EFTSFFIFICTVMCFHRA-SLDDDW----- 126
Oryza sativa 64 GGGWFNAKFLTGASAMGSIAIPILRAQ---LIETGAMLI EFTSFFILVCTVMCFHRA-TLDDDW----- 126
Dictyostelium discoideum 58 KGTFFDIGLFLITGFAIPMILASD---IISGKALAFSAGGVTYATILTLVWFFNRHNDED-NNW-- 125
Leishmania major 69 LDAFSTVGLFMGGVLLISGIAIPVLYLTS---VICGLALFFTLSGVCFITAGVSLTVADRGNDDAADGYNF 139
Schizosaccharomyces pombe 64 DRNLLDFGRFTFGATICTGFALPVLVNVG---LIGTAAATMSCVGGSIIFLVITLTSYQAFVQHEEF----- 128
Saccharomyces cerevisiae 75 SNTGQDLAHLFLTGMVLTSGIALPVVYFCQ---LIGHLSCIMVIGGLIYSSVIFKWFKFKDFNEDDSLFG- 140
Neurospora crassa 69 GAAVLDLGRFCTGFLVMMGLALPVVLANSA---IITVPAMIMSVIGGLIYGTIISFAMFFQEEQDF----- 128
Magnaporthe grisea 70 GGAALDLGRFCTGFLVVMGIALPVLARAH---MINAGALVMSVAGGLIYGTIISFGMFFTEEQEF----- 129

Supplementary figure S1. Sequence alignment of endospasin homologues of indicated species. Protein sequences were aligned using Clustal W. Conserved and similar residues are highlighted in black and grey, respectively.

The following sequences entries were retrieved from GenBank : *Homo sapiens* [gi:2266638; gi:49456429], *Mus musculus* [gi:28077089; gi:13386094], *Gallus gallus* [gi:56118974; gi:50746625], *Xenopus laevis* [gi:148235606; gi:27696439], *Tetraodon nigroviridis* [gi:47227970; gi:47227550], *Danio rerio* [gi:62531199; gi:50417924], *Caenorhabditis elegans* [gi:68067822], *Schistosoma japonicum* [gi:29840914], *Tribolium castaneum* [gi:189238958], *Rhodnius proxilus* [gi:33518717], *Anopheles gambiae* [gi:157016714], *Drosophila melanogaster* [gi:25012840], *Arabidopsis thaliana* [gi:17978901; gi:20466135], *Oryza sativa* [gi:125541513; gi:149392827], *Dictyostelium discoideum* [gi:74855942], *Leishmania major* [gi:68127014], *Schizosaccharomyces pombe* [gi:5734472], *Saccharomyces cerevisiae* [gi:1352881], *Neurospora crassa* [gi:28922424], *Magnaporthe grisea* [gi:39944086].