

Tetrahymena:

154841372_Tetr.the.Ciliophora
TYGSSSY-----SYYYTSP-----GYVYCT-----TEGCG-----NYVSSG...
GVGFTD-----TTTYTSS-----GYVYCT-----SECCF-----NILYV...

Basal metazoans:

300479182_Subc.dom.Porifera
300481107_Subc.dom.Porifera
241976231_Leuc.clo.Porifera
193864166_Ocaalob.Porifera
110578524_Ocaalob.Porifera
295904352_Tric.adh.Plaocozoa
295904352_Tric.adh.Plaocozoa
295907458_Tric.adh.Plaocozoa
162118304_Nema.vec.Chnidaria
62870197_Nema.vec.Chnidaria
162079661_Nema.vec.Chnidaria
219241711_Anem.vir.Chnidaria
163715734_Metr.nec.Chnidaria
295904352_Tric.adh.Plaocozoa
256982685_Acro.ml.Chnidaria
282477148_Acro.pal.Chnidaria
282495759_Acro.pal.Chnidaria
282495759_Acro.pal.Chnidaria
34828241_Hydr.vul.Chnidaria
167800752_Clyt.hem.Chnidaria

Ecdysozoans:

55912102_Locu.miq.Arthropoda/Hexapoda
268299600_Dend.pon.Arthropoda/Hexapoda
268213541_Dend.pon.Arthropoda/Hexapoda
110100579_Apis.mel.Arthropoda/Hexapoda
111000486_Apis.mel.Arthropoda/Hexapoda
122937095_Lasi.nig.Arthropoda/Hexapoda
116355752_Homa.vit.Arthropoda/Hexapoda
190600310_Haem.vit.Arthropoda/Hexapoda
160548759_Dana.ele.Arthropoda/Hexapoda
160517532_Homa.vit.Arthropoda/Crustacea
282195458_Erio.sin.Arthropoda/Crustacea
282195458_Erio.sin.Arthropoda/Crustacea
183545596_Ende.apl.Arthropoda/Chelicerata
165979979_Caen.bre.Nematoda
171978288_Caen.jap.Nematoda
102789986_Caen.ele.Nematoda
1118041_Caen.rem.Nematoda
3125200_Melo.chi.Nematoda
159496538_Rado.sim.Nematoda
1823495_Caen.ele.Nematoda
162703557_Acro.aul.Nematoda
162044334_Ancy.cen.Nematoda
10299141_Caen.ele.Nematoda
282620981_Mln.tar.Tardigrada

Lophotrochozoans:

116288951_Capit.tel.Annelida
301574464_Alvil.pon.Annelida
16124622_Hirid.med.Annelida
84596563_Schm.med.Platyhelminthes
22526145_Brac.pli.Rotifera
225249345_Brac.pli.Rotifera
283995981_Tubu.sp.Euryzoa
238686075_Mere.mer.Mollusca
313364059_Cras.gig.Mollusca
212829760_Mytil.cal.Mollusca
283995981_Tubu.sp.Euryzoa
163498585_Lott.gig.Mollusca
14818264_Lymn.ata.Mollusca
22598199_Cras.gig.Mollusca
152181490_Cras.vir.Mollusca
262344882_Hali.asi.Mollusca
163484735_Lott.gig.Mollusca
148316223_Lymn.ata.Mollusca
212829760_Mytil.cal.Mollusca
260305929_Cras.gig.Mollusca
313290855_Cras.gig.Mollusca
31904597_Cras.vir.Mollusca
31904597_Cras.vir.Mollusca
84430259_Eupr.sco.Mollusca
238688811_Mere.mer.Mollusca
31329716_Cras.gig.Mollusca
163509007_Lott.gig.Mollusca
164599920_Yene.phl.Mollusca

Deuterostomes:

11667313_Xeno.boc.Xenoturbellida
57925990_Stro.pur.Echinodermata
193940886_Para.liv.Echinodermata
93296730_Pati.pac.Echinodermata
193947621_Para.liv.Echinodermata
193947621_Para.liv.Echinodermata
34753691_Stro.pur.Echinodermata
139259964_Para.liv.Echinodermata
187046340_Sacc.kow.Hemichordata
187046340_Sacc.kow.Hemichordata
187194370_Sacc.kow.Hemichordata
187194370_Sacc.kow.Hemichordata (domain1)
187194370_Sacc.kow.Hemichordata (domain2)
187194370_Sacc.kow.Hemichordata (domain3)
18708391_Sacc.kow.Hemichordata (domain3)
169555739_Bran.flo.Chordata/Cephalochordata
17795741_Bran.flo.Chordata/Cephalochordata
66280481_Bran.flo.Chordata/Cephalochordata
66285540_Bran.flo.Chordata/Cephalochordata
67790958_Moly.tec.Chordata/Tunicata
187046340_Sacc.kow.Hemichordata
184061189_Clon.int.Chordata/Tunicata
117760331_Halo.zor.Chordata/Tunicata
314008648_Oiko.dio.Chordata/Tunicata
61961631_Molg.tec.Chordata/Tunicata
69294088_Halo.zor.Chordata/Tunicata
24604919_Clon.int.Chordata/Tunicata
184102615_Clon.int.Chordata/Tunicata
4774457_Clon.int.Chordata/Tunicata
51760129_Clon.sav.Chordata/Tunicata
184061189_Clon.int.Chordata/Tunicata
184081293_Clon.int.Chordata/Tunicata
51691721_Clon.sav.Chordata/Tunicata
24604919_Clon.int.Chordata/Tunicata
184061189_Clon.int.Chordata/Tunicata
184061189_Clon.int.Chordata/Tunicata
184061189_Clon.int.Chordata/Tunicata

Figure S7. WBP1/VOPP1 proteins deduced from ESTs. The sequences are denoted by NCBI gene identification (gi) numbers followed by species abbreviations and their phylums. More detailed taxonomy information is shown for arthropods. Conserved cysteines are shaded in **yellow**. Predicted transmembrane segments are **underlined**. The four consecutive positions with mainly aromatic residues are shaded in **red**. Cysteines and positively charged residues (arginines and lysines) near the C-terminal ends of predicted transmembrane segments are shown as **red** and **blue** letters, respectively. PY motifs (PPxY or LPxY) in the C-terminal regions after the predicted transmembrane segments are colored in **cyan**. Two sequences with tandem cysteine-rich domains are marked by **green** and **blue** gi numbers respectively. Species abbreviations are as follows: Acro.mil, *Acropora millepora*; Acro.pal, *Acropora palmata*; Alvi.pom, *Alvinella pompejana*; Ancy.can, *Ancylostoma caninum*; Anem.vir, *Anemonia viridis*; Apis.mel, *Apis mellifera*; Aply.cal, *Aplysia californica*; Asca.suu, *Ascaris suum*; Brac.pli, *Brachionus plicatilis*; Bran.flo, *Branchiostoma floridae*; Caen.bre, *Caenorhabditis brenneri*; Caen.ele, *Caenorhabditis elegans*; Caen.jap, *Caenorhabditis japonica*; Caen.rem, *Caenorhabditis remanei*; Capi.tel, *Capitella teleta*; Cion.int, *Ciona intestinalis*; Cion.sav, *Ciona savignyi*; Clyt.hem, *Clytia hemisphaerica*; Cras.gig, *Crassostrea gigas*; Cras.vir, *Crassostrea virginica*; Dana.ple, *Danaus plexippus*; Dend.pon, *Dendroctonus ponderosae*; Ende.spi, *Endeis spinosa*; Erio.sin, *Eriocheir sinensis*; Eupr.sco, *Euprymna scolopes*; Hali.asi, *Haliotis asinina*; Halo.ror, *Halocynthia roretzi*; Hiru.med, *Hirudo medicinalis*; Homa.vit, *Homalodisca vitripennis*; Homa.ame, *Homarus americanus*; Hydr.vul, *Hydra vulgaris*; Lasi.nig, *Lasius niger*; Leuc.cha, *Leucetta chagosensis*; Locu.mig, *Locusta migratoria*; Lott.gig, *Lottia gigantea*; Lymn.sta, *Lymnaea stagnalis*; Melo.chi, *Meloidogyne chitwoodi*; Mere.mer, *Meretrix meretrix*; Metr.sen, *Metridium senile*; Miln.tar, *Milnesium tardigradum*; Molg.tec, *Molgula tectiformis*; Myti.cal, *Mytilus californianus*; Naso.vit, *Nasonia vitripennis*; Nema.vec, *Nematostella vectensis*; Oiko.dio, *Oikopleura dioica*; Osca.car, *Oscarella carmela*; Osca.lob, *Oscarella lobularis*; Para.liv, *Paracentrotus lividus*; Pati.pec, *Patiria pectinifera*; Rado.sim, *Radopholus similis*; Rudi.phi, *Ruditapes philippinarum*; Sacc.kow, *Saccoglossus kowalevskii*; Schm.med, *Schmidtea mediterranea*; Stro.pur, *Strongylocentrotus purpuratus*; Sube.dom, *Suberites domuncula*; Tetr.the, *Tetrahymena thermophila*; Tetr.urt, *Tetranychus urticae*; Tric.adh, *Trichoplax adhaerens*; Tubu.sp., *Tubulipora* sp.; Xeno.boc, *Xenoturbella bocki*.