

"SPATIAL RECONSTRUCTION OF TRPC-MECHANORECEPTORS OF THE  
CTENOPHORE *MNEMIOPSIS LEIDYI* A. AGASSIZ, 1865"

**Pic. S1. The amino acid sequence of AFK83798.1 (ML234550a-PA) single polypeptide chain from ctenophore *M. leidy***

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>AFK83798.1 Trp-C protein [Mnemiopsis leidy]  
MSGYPDAEISGSGTKRNSLPHILLTRTESDLTMNPTTTPQQQDLPLAAIEPDGLSETDFPSSSEEDNAD  
KDTMTSSLIQPDLSDEEAALKELDLDLALGDGHETLRIDSLDIDILTNTHTFKRAESGNSPLMSALKNSFSK  
QSSVANQMKKLISKGSLLSNDDSRDKSSNAAPTTVGDKFLVQVRDGNMEQIRKTLTDQNPEVINFSNSY  
GVTALMLAVEKENNDLVRFLIEREADVNAISKNFQKETSLSRAAKAQNKELVRVLEKGAIEIQQALNCIC  
NPQIGNDWWNDEKAFSLTGVKMLVSPPIAATREPILTAFSVSNKLYILAKRREEYRDIYSSLAQECESF  
AYSFLDQCENLWEARRLLSKEMKIIDKAISSKKEFVAHPFVQSLLEQNFQKFMNTSIWNRISLFFYWW  
FSVLIFPFYGVQYLLKDPQRKLRYSDLGEYIDFMGTPVLCIADTISFILCFGFLLAICLQEELPVRST  
QYEMFYEYILWSCIVGQIYTEFIQLRKLGWKNYVTHFWNQIDILIIIFILFGTAGLRIATLYNIDSLPLVD  
GERDFTGADQIKSQSVAVWVMYGLGFLQTIKFLSLTDSNNVLGPLQLAMKSMIGDLMQIMLLLLTILVG  
FSVTIMVLMKQIPELYKGKEVPPNFQDLLSTIATLLWALFGFIDFIEEMRRNEGDMLGVYVAFYVIFAAY  
LFMSAVLLLNLMIAMLTTFERIQHQS DVEWK FARALMFRGYMGGQSY PAFP NLLCHMTIIIFSRI FRCS  
NKPLLGEVRYSDKVDQYREKLIKDLRKRYVVGKNMAVGKKVGGGLIDQYNNMLSGKSGESKPSLPKHDRTL  
SALQEGGMRNLNKS VGKSKI
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**Pic. S2. The amino acid sequences of hypothetical mechanosensors ML03701a-PA (a) and ML038011a-PA (b) from *Mnemiopsis leidy***

a)

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>ML03701a-PA, Mnemiopsis leidy, annotation not available  
MTGKTDKDSGFRSPAISITSPVSNPSSDAADVLEQDYRWDREIQSSVKVNSVTSPNLSGGEVSVNSVEKLINLGESTELS  
ALQHTNLEVFPSLEDLRPSNEIFDMIKARDYKGVSKILAERGHKVEIVPKVGCSQLHYTKLNVANTVNEEGDTPLIVAAR  
TDFRMVDMILDYGGDPNATNLERDSPLSIAAVRGDRDSDV DALLYAGANLNAAI IKLTSYLR FQTETDVLNSGFESGFSVK  
SLTFLLSNDVYLKCRDPFRAAFDVSKSIEAIVGVRDEFRMEFELLIRDADVFAKMLDHC DRMWEAREVLDRSHGLLKKA  
IDEGKKRFVGHFPFSQQIIIEEWYGVVAYKMFFGKIRIAFRYIMSPVLLPWYLLKFIFFERNRRTKSLAIECSGADHMKLL  
FTPFMCFLTDIFNYLILLALLIATCVLPKESHVPHNVEIALWCCTLSRVLIECDQMWWQGLWRYLPNMWNVLELFSCSLI  
TTAAIYRLVVWQTYDRPTDDAVTAEIVEKMEVLHGDLLNITYLYAVTEFFIILRWLNFLFEFFPLGPLLIALR TL IADVF  
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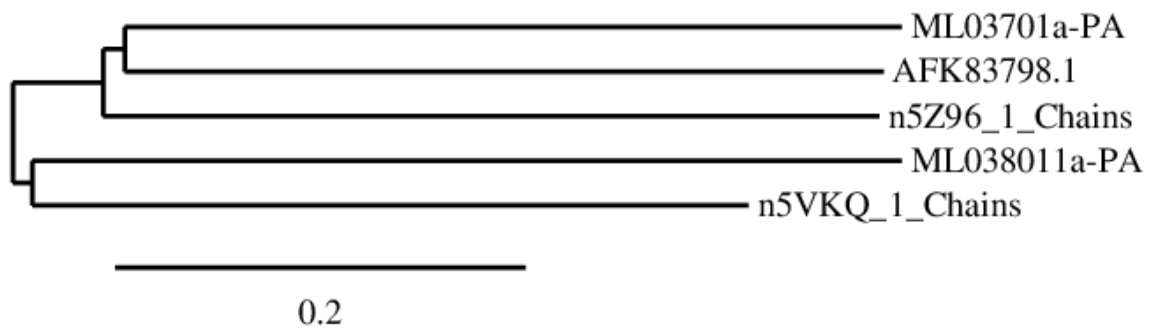
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MRRGGSNRKESRTYSSGKSDTIKSTTKV

6)

>ML038011a-PA, *Mnemiopsis leidyi*, annotation not available

MSRVSRRHTSNHGNHPPGNHGNRDPGYKVLPAQMSTPDLPEKIGPVTRAPGLVHHSGLTTHSLLSDIEDQGDLDDLGRDA  
INNDIYYIFLVTVRLWRLMLRLLTHLALLSLCIVCIIHLPFQPSDGLKVCVTRMQLTMLNFRCTVFTPFVRAFIRYEC  
MSVCVSICLSASVSVCLVCLSVCLSNVTKPRLREKGLDSDEVGALHYAARYNHQAVMQLLVDFNANVNNPAQDDLTPH  
YAARYTPKGTADMDFEETTVDINAPLPPTKIAYFVTRFLIPIFSTKLSDIYNRAVLQEEDEPEGEEDKEEEEEEDKEE  
EELPTEDLQATRSISEIIAEDFGSPVKFLLDQGANVNAKDKYGLTALHCAADRGNYAAVIELLKHPSEIIIECQDKQGET  
PLQLAVRANSMPVCRKLLSVGARANCENFNQLSALHSACVESNLEIVKMLCDKLEHEGVKNFINKTNDDESMTALHFAVEV  
GAEDVVNFLVDKGADVTLKRKNLDTPLHLAANHGFEIATKLI NGHTIDLDKKNLERMTPHSAARMREKMMHLLIDR  
GANLEALDKDGSTPLIMAAGWGQMAAVQI LLEAGADVHAQDKRDKTAIFHAVEESRPKVLKLLLDRRGKENLNEIDRFQ  
NTPLHLASQLGYISCVKVLLEFGFASDAQNEEDMCPLHLAALHGRIQTVKELVKWDP AIVNDEDEIANTPLHYAAQAGHV  
KTVIFLTEESADVDAKNQFGWTPMDCAAACGMTKTLAALLDAGGEVDPIDKAKTTPHLHLAANKGHVATVEFLLDHGANIR  
LTDVDGNNALELATMHTKKEVAEAIIEHKKWYAAMDNKHPNGDTPMKKLI RMPDVAIQVFNKCTDDSCNPEHMTNDHKE  
YQVEFDYRYLDEMEDEDESADPGDNKSYISQDITILTDPDFKPGQMSHHPLQVMVKAKRIELLDHPLVQSLIYNKWECYG  
KWFYFNLTIYLIYLISLTI FALNQKPPYSARDDGVKLTNILDNETQKAAAALSDDTTIKCVEFDQHKKVLVQIAGYIVL  
ATSALRLVLELAQFIVQRVKYFSVMNFIELVLFSSYIFCHTVFYGLQIIKYPQWQMGVFSVFIAMNLI MFLRKFPRI  
GIYIVMFVTVLLTFLQIMI ILLIFIVAFALSFNMVLDKFPAPFLDVLPSIMKTFVMMTGELEYDGYVVEEPLFYPEASYGL  
FICFVIIIVPIVFMNLLVGLAVDDIKEVQHRAGLERSVMKIELIFQVENLLPKAYLRKINLKKAKYFVNQAKRI LGLTIKD  
IPFNGESINDALHPTKTGVDELKSSSTESLEKSVRRMRVQVEQLTQQNSHIIRMLHTLSAGTSSQASDDINVDQDLLTELG  
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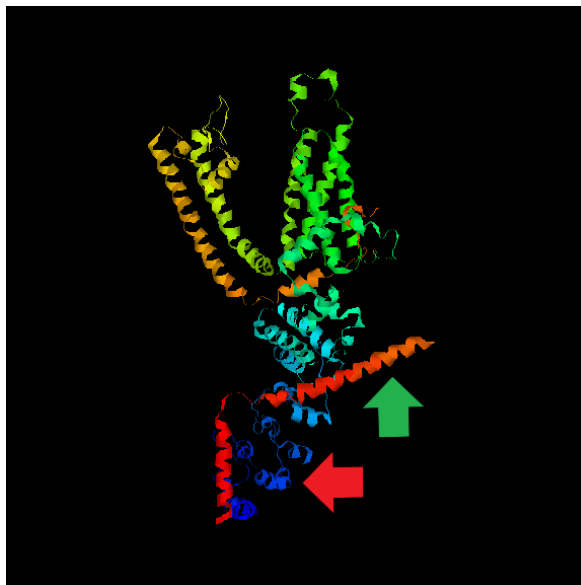
**Pic. S3. Phylogenetic relationships between individual subunits of mouse (5z96), *Drosophila* (5vkq), and *Mnemiopsis* (ML234550a-PA/AFK83798.1, ML03701a-PA and ML038011a-PA) TRP channels**



**Interlinear note.** Amino acid sequences were subjected to multiple alignment using the Clustal Omega (1.2.4) program [36]. The data obtained in Newick format was used to build a dendrogram using the TreeDyn 198.3 program [37], where the branch lengths are compared to 0.2 long bar, the branching support value was less than 50%.

**Pic. S4. Structural models of ML03701a-PA and ML038011a-PA hypothetical mechanosensors from *Mnemiopsis leidyi*, ML03701a (a), ML038011a-delta with a truncated ankyrin domain (b); the red arrow indicates ankyrin repeats, the green arrow points to an  $\alpha$ -helix with a kink, the visualization with the RasMol program [18]**

a



b

