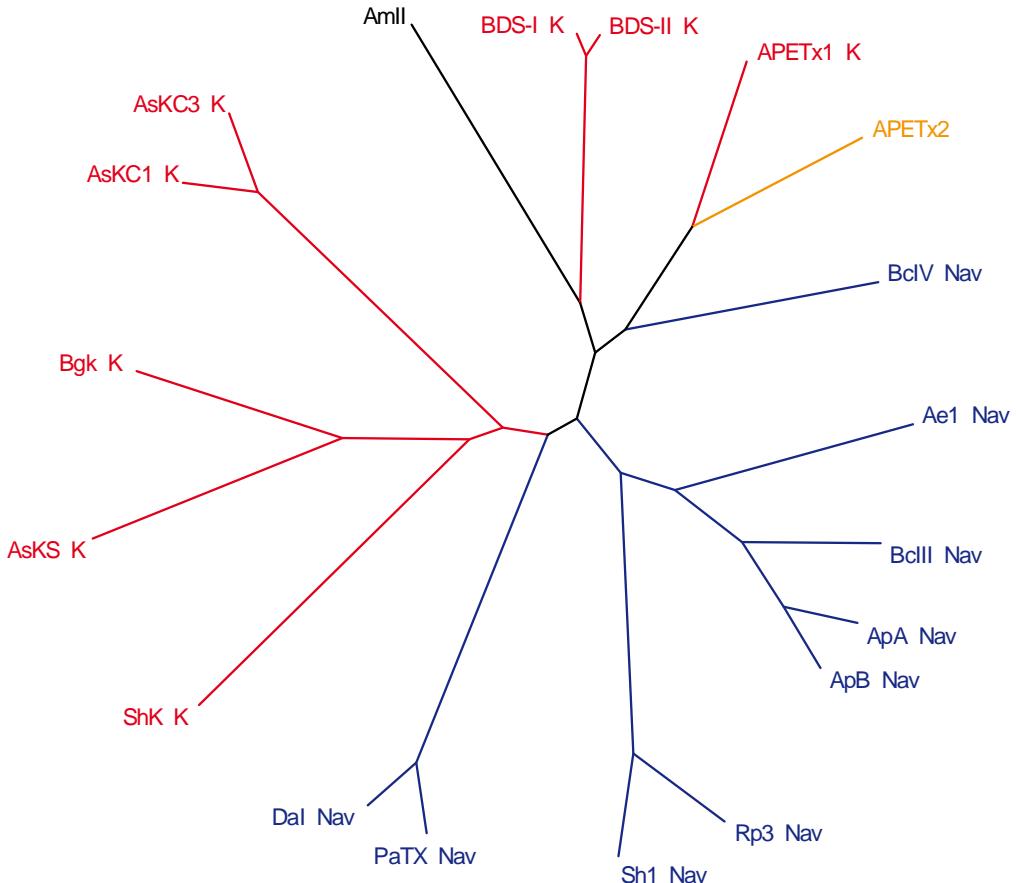


**A****B**

		*	20	*	40	*	
ApA_Nav_	: -GVSCLCDSDGSPVRGNTLSGTWL-YPSGCPSGWHNCKAHGPTI-GWCCCKQ--	:	49				
ApB_Nav_	: -GVPCLCDSDGPRPRGNTLSGI LMW-YPSGCPSGWHNCKAHGPNI-GWCCCKK--	:	49				
Sh1_Nav_	: --AACKGDDDEGPDIRTAPLTGTVDL---GSCNAGWEKCASYYTI I-ADCCRKKK	:	48				
Rp3_Nav_	: --GNCKGDDEGPYVRTAPLTGYVDL---GYCNEGW-KCASYYSPI-AECCRKKK	:	47				
BcIII_Nav_	: -GVACRCDSDGPTSRGNTLTGTWL-T-GGCP SGWHNCRGSGPFI-GYCCKK--	:	48				
APETx1_K_	: -GTTCYCG-----KTI--GIYWF-GTKTCPNSRGTGSCGYFL-GICCPYPVD	:	42				
APETx2_	: -GTACCSGG-----NSK--GIYWF-YRPSCP TDRGYTGSCRYFL-GTCCTPAD	:	42				
BcIV_Nav_	: -GLPCDCH-----GHT--GTYWLNNYSKCPKG YGYTGRCRYLV-GSCCYK--	:	41				
BDS-I_K_	: -AAPCFQGS-----GKPGRGDLWI-LRGTCPGGGYGYTSNCYKWP-NICCYPH-	:	43				
BDS-II_K_	: -AAPCFQCP-----GKPDRGDLWI-LRGTCPGGGYGYTSNCYKWP-NICCYPH-	:	43				
AmII	: ALLSCRPE-----GKTEYGDWKWL-FHGGCONNYGYNYKCFMKGAVCCYPQN	:	46				
	C C		G w	C		CC	

**Supplemental Figure S2. Sequence comparison of APETx2 with other sea anemone toxins.** **A.** Phylogenetic tree, Nav, inhibitor of voltage-gated  $\text{Na}^+$  channels; K, inhibitor of  $\text{K}^+$  channels. Ae I from *Actinia equina*; Am II from *Anthopsis maculata*; ApA, ApB, from *Anthopleura xanthogrammica*; APETx1 and APETx2 from *Anthopleura elegantissima*; AsKS (kaliseptine), AsKC (kalicladines); BDS-I and BDS-II from *Anemonia sulcata*; BcIV from *Bunodosoma caissarum*; BgK from *Bunodosoma granulifera*; Da I from *Dofleinia armata*; PaTX from *Entacmaea actinostolooides*; Rp3 from *Radianthus paumotensis*; Sh1 and ShK from *Stychodactyla helianthus*; **B.** Alignment of the novel sea anemone toxins to some of the classical Nav-targeting sea anemone toxins. Original references are cited in (Honma *et al.*, 2006; Shiomi, 2009)

### References

- Honma, T, Shiomi, K (2006) Peptide toxins in sea anemones: structural and functional aspects. *Mar Biotechnol (NY)* **8**(1): 1-10.  
 Shiomi, K (2009) Novel peptide toxins recently isolated from sea anemones. *Toxicon* **54**(8): 1112-1118.