

**Table S1.** Student's t-test of null hypothesis of mean  $\Delta G$  of binding relative to Dappu-RPCH binding to Dappu-RPCH R. The t-critical value is 2.01 for all the peptides except for pEVNFSPSWG N for which it is 1.97.

Peptide	t-stat	Significance
Ace	1.49	no
Ala2	2.06	yes
Ala3	5.11	yes
Ala4	0.30	no
Ala5	4.71	yes
Ala6	5.96	yes
Ala7	3.31	yes
Ala8	10.01	yes
COOH	1.18	no
Gly5	0.59	no
Gly6	3.53	yes
Anaim-AKH	0.28	no
Grybi-AKH	0.57	no
Argsi-RPCH	5.18	yes
Gly8	8.93	yes
pEVNFSPSWG N	2.62	yes