Molecular identification, transcript expression, and functional deorphanization of the adipokinetic hormone/corazonin-related peptide receptor in the disease vector, *Aedes aegypti*.

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SUPPLEMENTARY INFORMATION

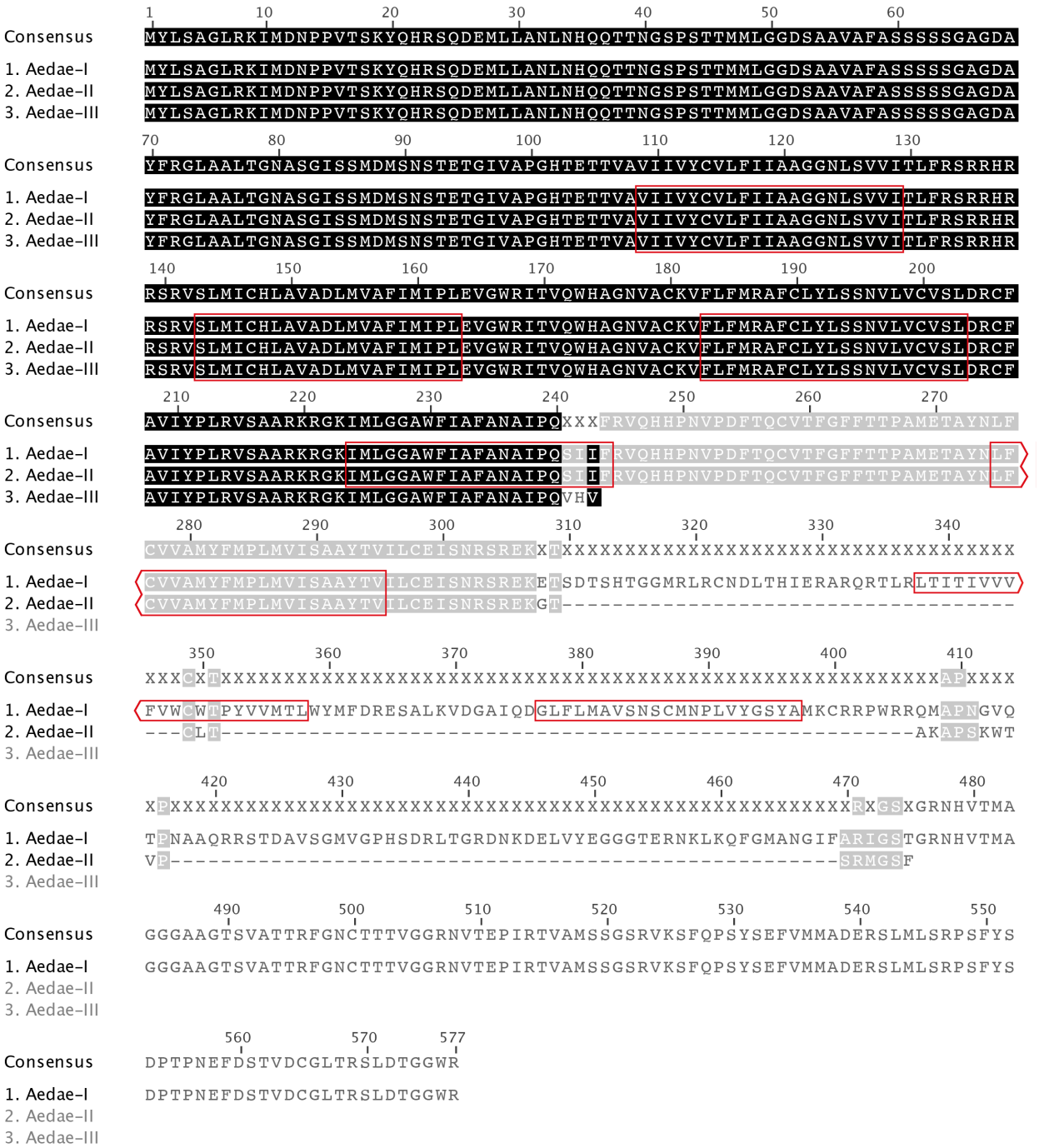

Figure S1. Sequence alignment of *Aedes aegypti* ACP receptor variants I, II, and III. Aligned amino acid sequences of ACPRs from *A. aegypti*, transcript variant I, (GenBank: MF461644), transcript variant II, (GenBank: MF461645), transcript variant III, (GenBank: MF461646). Residues outlined in red indicate predicted transmembrane domains based on the *A. aegypti* sequences. Highlighting of residues indicates % identity with black denoting 100% sequence identity, dark grey denotes 80-100% identity, and light grey represents amino acid positions with 60-80% sequence identity.

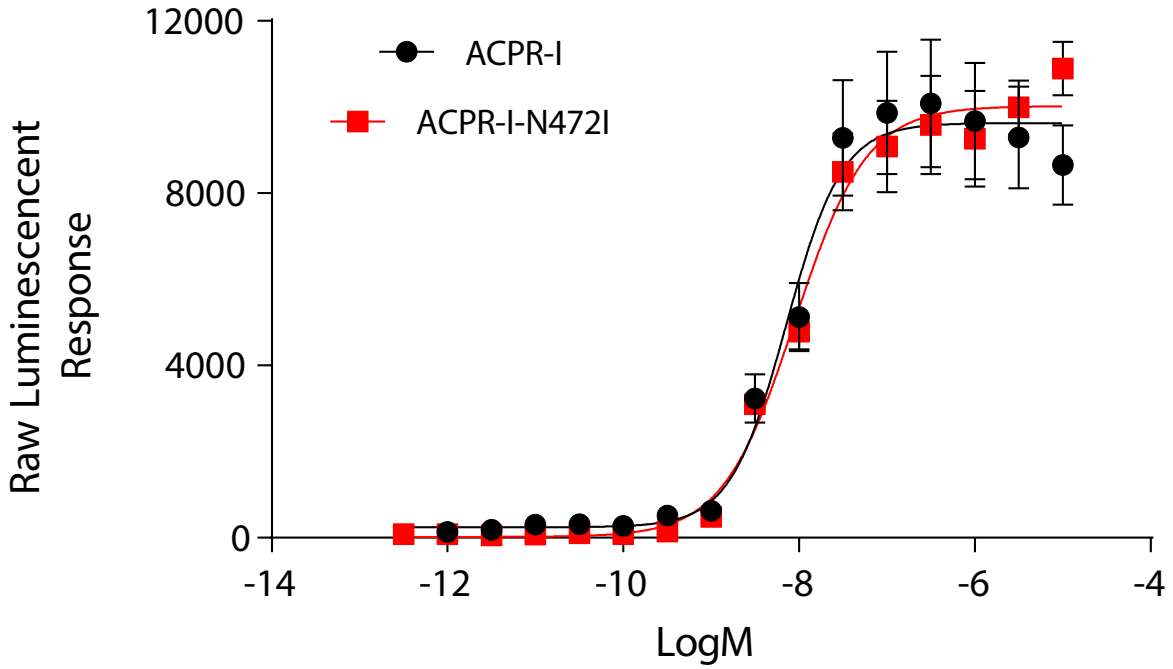

Figure S2. Functional heterologous receptor assay of CHO-K1 aequorin cells transiently expressing the *Aedae*ACPR-I and *Aedae*ACPR-I-N472I. Dose dependent effect on the bioluminescence response (mean 0-15s) after the addition of between 10^{-12} – 10^{-5} M doses of *Aedae*ACP to *Aedae*ACPR-I and *Aedae*ACPR-I-N472I. Luminescence is normalized to the BSA control. Data represent the mean ± standard error (n=4).

Table S1. GenBank accession numbers and references for receptor sequences in Fig. 3.

Receptor	Putative Ligand(s)	Accession Number	Reference(s)
Acyrthosiphon pisum AKHR	AKH	XP_003245941	[1]
Aedes aegypti AKHR1	AKH	XP_001655248	[2]
Aedes albopictus AKHR	AKH	XP_019540948	
Anopheles gambiae AKHR	AKH	ABD60146	[3]
Anopheles darlingi	AKH	ETN67429	[4]
Anopheles sinensis	AKH	KFB53098	[5]
Culex pipiens AKHR	AKH	AAWU01041683	[1]
Apis mellifera AKHR	AKH	NP_001035354	[6]
Bombyx mori AKHR	AKH, ACP	NP_001037049	[7–11]
Musca domestica AKHR		XP_019895730	
Manduca sexta AKHR	AKH	ACE00761	[12]
Drosophila melanogaster AKHR	AKH	AAC61523	[7,13]
Locusta migratoria AKHR		ANW09575	
Polyrhachis vicina AKHR		ADK55068	
Nasonia vitripennis AKHR	AKH	NP_001161243	[14]
Tribolium castaneum AKHR	AKH	NP_001076809	[14]
Periplaneta Americana AKHR	AKH	ABB20590	[14]
Rhodnius prolixus AKHR	AKH	AIJ49751	[15]
Gryllus bimaculatus AKHR	AKH	ADZ17179	[16]
Glossina morsitans AKHR	AKH	AEH25943	
Aedes aegypti CRZR	CRZ	AAGE02020874	[2]
Aedes albopictus CRZR		XP_019554625	
Anopheles gambiae CRZR	CRZ	AAQ67361	[17]
Apis mellifera CRZR	CRZ	NP_001137393	[6]
Culex pipiens CRZR	CRZ	AAWU01031675	[1]
Bombyx mori CRZR	CRZ	NP_001127719	[8,14,18]
Drosophila melanogaster CRZR	CRZ	AAM21341	[19]
Nasonia vitripennis CRZR	CRZ	AAZX01006363	[20]
Bactrocera dorsalis CRZR	CRZ	AQX83392	[21]
Rhodnius prolixus CRZR-A	CRZ	AND99324	[22]
Manduca sexta CRZR	CRZ	AAR14318	[23]
Musca domestica CRZR	CRZ	NP_001295994	
Anopheles gambiae ACPR	ACP	ABX52399	[14]
Anopheles darlingi ACPR	ACP	ETN61096	[24]
Aedes albopictus ACPR	ACP	XP_019559258	
Culex pipiens ACPR	ACP	XP_001842868	[1]
Tribolium castaneum ACPR	ACP	ABX52400	[14]
Nasonia vitripennis ACPR	ACP	NP_001164571	[14]
Bombyx mori ACPR1	ACP, AKH	NP_001127726	[14,23]
Bombyx mori ACPR2	ACP, AKH	NP_001127745	[14,23]
Rhodnius prolixus ACPR-C	ACP, AKH	AKO62858	[25]

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