

Supplementary Figure Captions

Fig. S1. Isothermal titration calorimetry results for the binding of biogenic amine ligands with LJM-11, LJM-17 and LJM-111. The upper panel of each graph shows the heat changes with each injection as a function of time. The lower panel shows a plot of the calculated enthalpies per injection versus molar ratio of ligand and target (squares). Also shown is the result of fitting the data to a single site binding model using the MicroCal origin software package. Panels 1-6: LJM11; Panels 7-12: LJM111; Panels 13-16: LJM-11 T328A mutant; Panels 17-20: LJM-11 N343A mutant. Below each graph the concentration of the protein in the calorimeter cell (P) and the ligand in the syringe (L) are shown.

Fig. S2. Stereoview of the LJM-11 binding pocket containing serotonin with the ligand covered by a Fo-Fc difference electron density map (colored in blue). The map was calculated using data collected from LJM-11 cocrystallized with serotonin. Protein carbon atoms are colored in white, nitrogen in blue and oxygen in red. Carbon atoms in serotonin are colored in green, with nitrogen colored in blue and oxygen in red. Hydrogen bonds are shown as red dashed lines.

Fig. S3. Alignment of phlebotomine salivary yellow proteins retrieved by a search of the GenBank protein database using the motif shown in Fig. 5A. Residues contained in the motif are shown highlighted in black or yellow. Absolutely conserved motif positions are marked by an asterisk, while motif positions that are not absolutely conserved are marked by a colon. The conserved cysteine positions are highlighted in blue. Abbreviations: PHLARI, *Phlebotomus ariasi*, PHLARA, *P. arabicus*, PHLPER, *P. perniciosus*, PHLARG, *P. argentipes*, PHLDUB, *P. dubosqi*, PHLPAP, *P. papatasi*, LUTLON, *L. longipalpis*.

Fig. S4. Chromatography of T328A and N343A mutants of LJM-11 on Superdex-75 in comparison to the wild-type protein. The retention volumes of the mutants are essentially identical to the wild type, with no indication of high molecular weight aggregates being seen.

Fig. S1

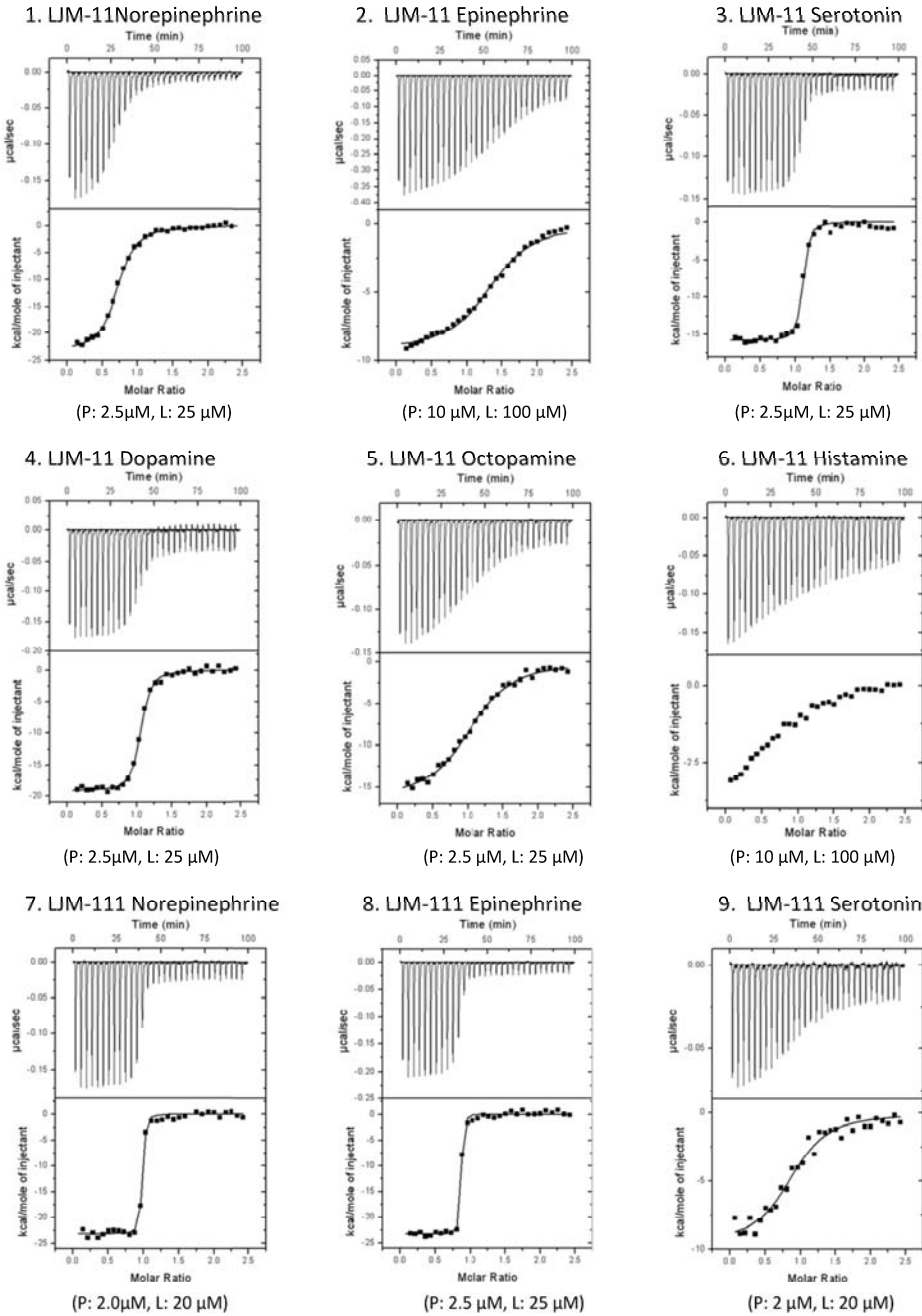
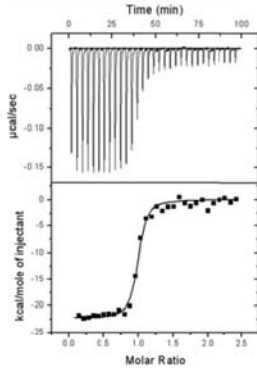


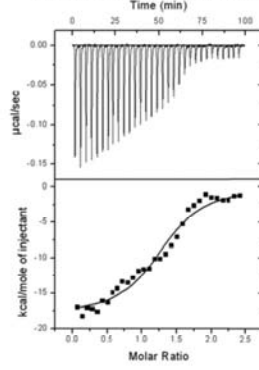
Fig. S1 (page 2)

10. LJM-111 Dopamine



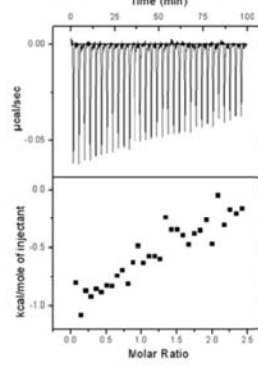
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11. LJM-111 Octopamine



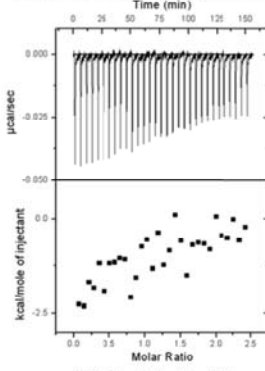
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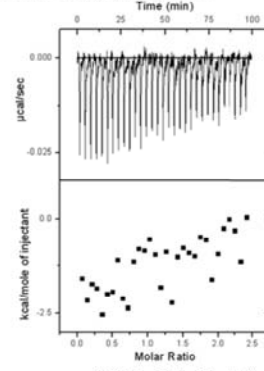
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13. T328A Norepinephrine



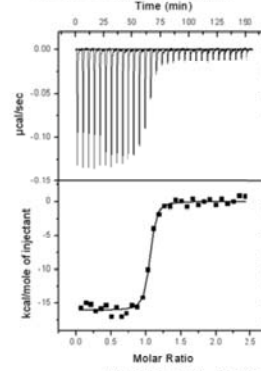
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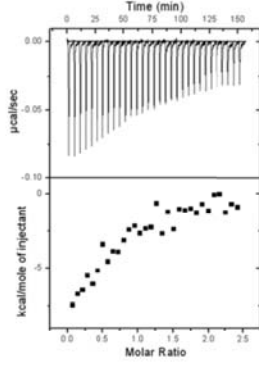
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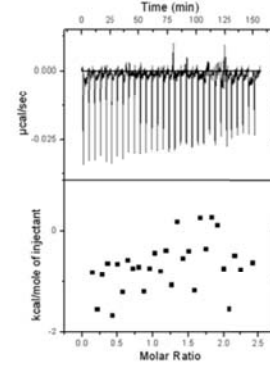
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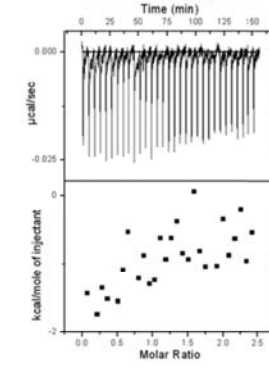
(P: 2.5 µM, L: 25 µM)

17. N343A Norepinephrine



(P: 2.5 µM, L: 20 µM)

18. N343A Epinephrine



(P: 2.5 µM, L: 25 µM)

Fig. S1 (page 3)

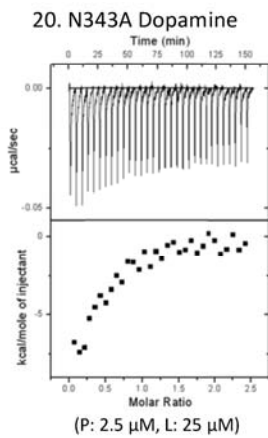
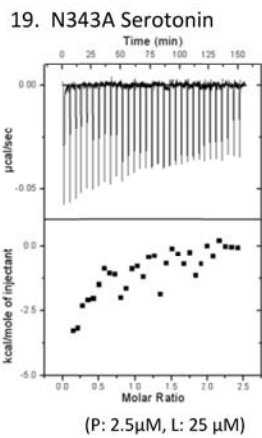


Fig. S2

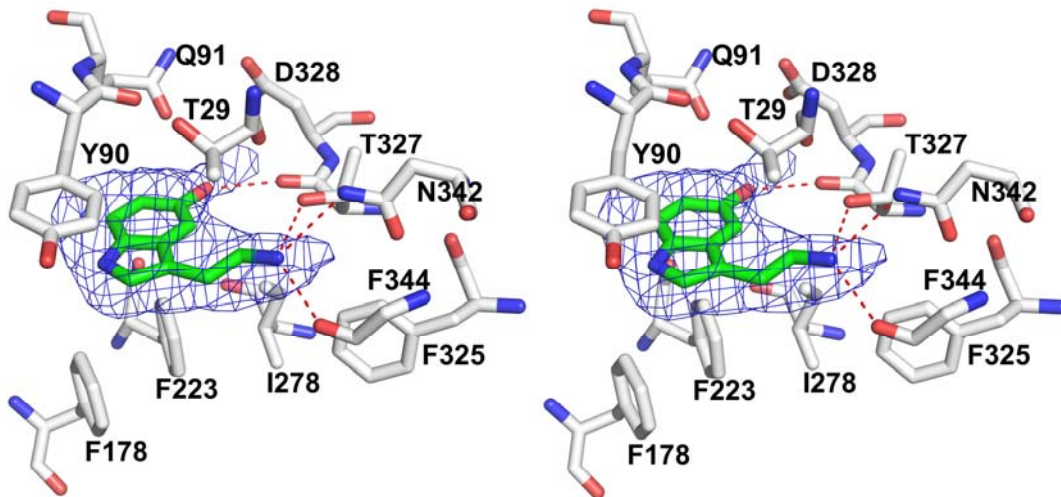


Fig. S3 (page 1)

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Fig. S3 (page 2)

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Fig S4

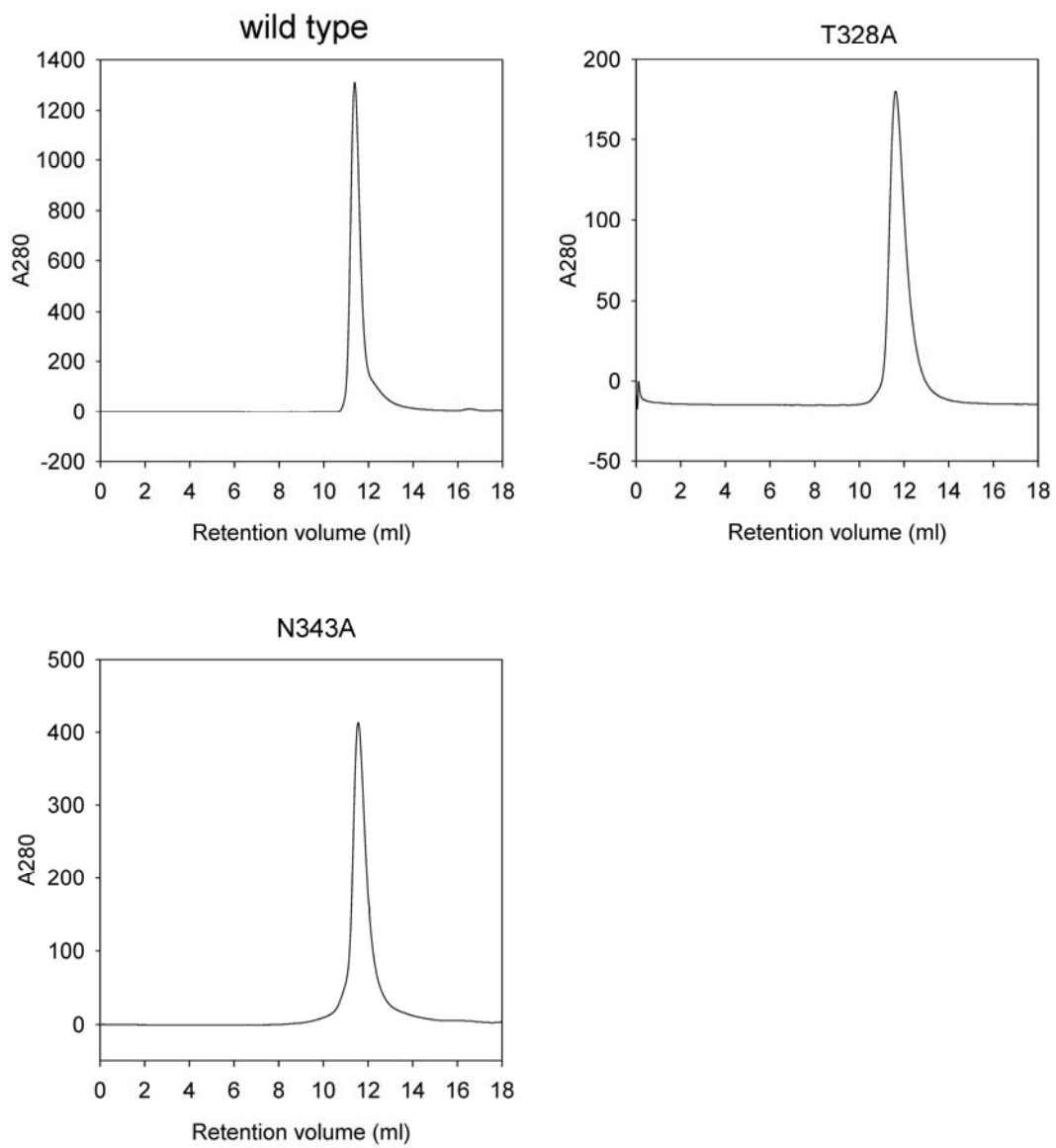


Table S1 – Characteristics of *Lutzomyia longipalpis* salivary proteins

Sequence	Accession Number	Mature MW	pI	Annotation
LJM17	AF132518	45.2	5.71	yellow related-protein
LJM11	AY445935	43.2	9.32	yellow related-protein
LJM111	DQ192488	43.0	4.85	yellow related-protein
LJL23	AF131933	35.0	9.14	Apyrase
LJL143	AY445936	32.4	8.45	Unknown
LJL34	AF132511	28.8	9.09	Antigen-5
LJL13	AF420274	26.4	4.93	D7-related protein
LJM10	DQ192486.1	16.6	8.61	C-type lectin
LJS142	DQ192487.1	16.6	7.07	C-type lectin
LJL18	DQ190947.1	16.3	6.49	C-type lectin
LJM04	AAD32197.1	13.8	9.09	SL1 protein
LJL17	AY452695	10.1	4.31	Unknown
LJS192	AY438270.1	9.6	4.21	Unknown
LJL08	M77090	6.9	8.91	Maxadilan
LJL201	AY455919	8.6	4.86	Unknown
LJL38	AY438269.1	2.5	3.34	Unknown