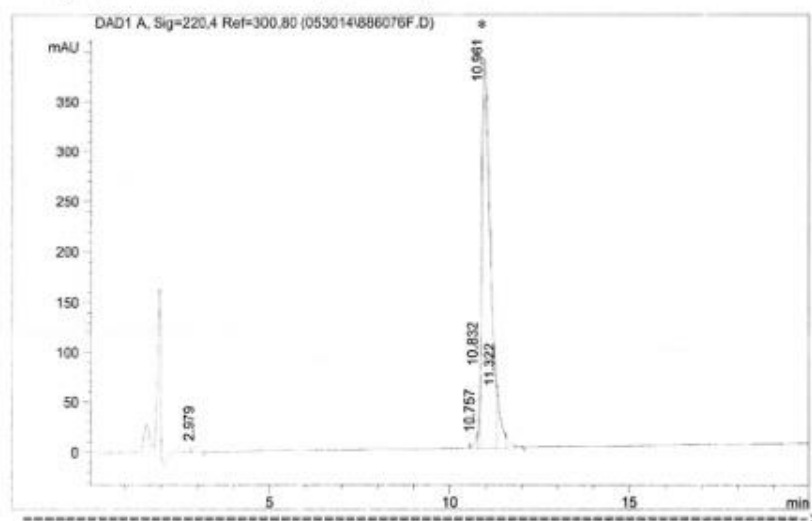
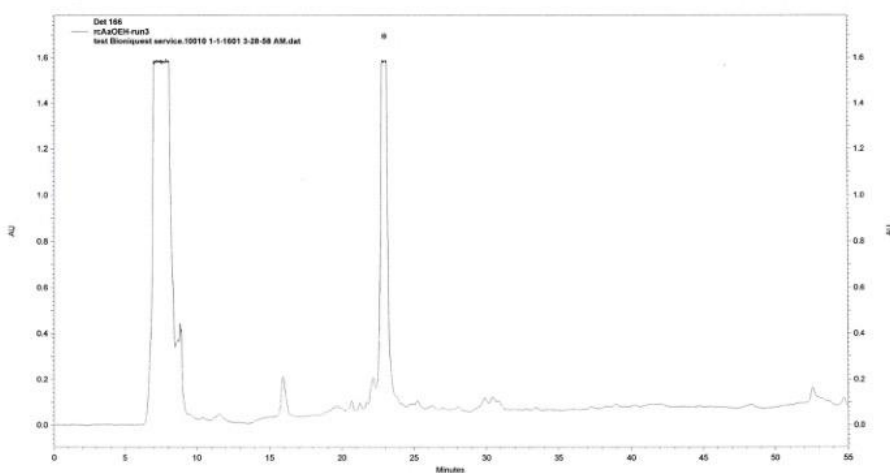


A



B



**Fig. S1. Chromatograms showing the purification of ILP3 (A) and OEH (B).** (A) After synthesis, ILP3 was purity checked by elution on a reversed phase column (Phenomenex Jupiter C18 (5  $\mu$ m, 120 Å) 4.6 X 150 mm) with a gradient of solvents A (0.1% TFA in HPLC water) and B (0.1% TFA in 80% acetonitrile and 10% water). ILP3 eluted as single peak as indicated by an asterisk (\*) at 10-11 min with the gradient program (33 – 63% solvent B for 20 min, 1 ml/min flow) as monitored at 220 nm. (B) Recombinant OEH (18,278 MW) produced in *E. coli* was extracted in 0.5 ml of denaturing buffer (50 mM Tris pH 8.0, 0.2 M NaCl, 2 mM EDTA, and 7 M GuHCl) for 1 h at room temperature. Solvent (0.5 ml of 20% acetonitrile/80% water with 0.1% trifluoroacetic acid (TFA)) was added, and after mixing, 0.1 ml was added to 0.5 ml of the same solvent, mixed, and centrifuged (13K x g, 4 min). The supernatant was injected onto a reversed phase column (Phenomenex Jupiter C18 (5  $\mu$ m, 300Å) 10 X 220 mm), which eluted as a single peak as indicated by an asterisk (\*) at 23-24 min with a gradient of solvents A (0.1% TFA in HPLC water) and B (0.1% TFA in 90% acetonitrile and 10% water). The gradient program was set with a flow of 2 ml/min and monitored at 220 nm: solvent B 20%, 5 min; 20 - 50%, 10 min; 50 - 70%, 30 min; 70 – 100%, 5 min; 100 – 20%, 5 min. Fractions of this peak were then pooled, lyophilized, and stored at -80°C. Weighed portions were prepared as a 200 pmol/ul stock in pure water, aliquoted, and stored at -80° C for use one time.

**Table S1.** The expression in FPKM of the 548 genes identified by Raddi et al. (2020) as hemocyte markers averaged over three replicates of hemocytes . BF, expression measured 24h after blood feeding; NBF, expression measured in age-match non-blood fed mosquitoes; ILP3; expression measured 24 h after blood feeding, decapitation, and ILP3 injection.

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**Table S2.** Genes with FPKM =10 identified in hemocytes from age-matched NBF females, BF females 24 h PBM, or BF females 24 h PBM that were injected with ILP3 and decapitated. Each row indicates the gene, average FPKM across the three replicate libraries for each treatment with an X indicating expression exceeded a 10 FPKM cutoff.

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**Table S3.** Gene ontology (GO) terms identified among the 262 genes that were preferentially expressed with FPKM=10 in hemocytes from BF females that were injected with ILP3 and decapitated.

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**Table S4.** Genes with FPKM values =10 in in three replicates of hemocytes from BF females 24 h PBM that were injected with ILP3 and decapitated, age-matched NBF females, and BF females 24 h PBM. Significantly differentially expressed genes between only ILP3 and NBF females, only ILP3 and BF females, and ILP3 to both NBF and BF females are denoted with an "X" .

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**Table S5.** The expression in FPKM of immune genes averaged over three replicates of hemocytes . BF, expression measured 24h after blood feeding; NBF, expression measured in age-match non-blood fed mosquitoes; ILP3; expression measured 24 h after blood feeding, decapitation, and ILP3 injection.

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