

Table S3. Pairwise comparisons (LS-means with Tukey adjustment) of the expression level of immune-related genes between all treatments. Male and female moths were injected with *Serratia entomophila* (SER), PBS (PBS) or non-injected (NON); n=3 for all groups. The overall treatment effect was tested by one-way-ANOVA with $P < 0.001$ for all genes.

Gene	Sex	Comparison	df	t-ratio	P-Value
Heat shock protein 70	♀	PBS – NON	12	-2.125	0.33
		SER – PBS	12	-11.837	<0.001***
		SER – NON	12	-13.963	<0.001***
	♂	PBS – NON	12	-1.310	0.77
		SER – PBS	12	0.477	1.00
		SER – NON	12	-0.833	0.96
	♀ vs ♂	NON-NON	12	-27.368	<0.001***
Gloverin	♀	PBS – NON	12	-1.693	0.56
		SER – PBS	12	-11.711	<0.001***
		SER – NON	12	-13.404	<0.001***
	♂	PBS – NON	12	-3.601	0.03*
		SER – PBS	12	-2.652	0.16
		SER – NON	12	-6.253	<0.001***
	♀ vs ♂	NON-NON	12	-4.060	0.02*
Hemolin	♀	PBS – NON	12	-0.297	1.00
		SER – PBS	12	-6.106	<0.001***
		SER – NON	12	-6.403	<0.001***
	♂	PBS – NON	12	-3.988	0.02*
		SER – PBS	12	-1.371	0.74
		SER – NON	12	-5.359	0.002**
	♀ vs ♂	NON-NON	12	0.245	1.00
Lysozyme	♀	PBS – NON	12	-7.291	<0.001 ***
		SER – PBS	12	-7.858	<0.001 ***
		SER – NON	12	-15.149	<0.001 ***
	♂	PBS – NON	12	-2.523	0.19
		SER – PBS	12	-4.752	0.005**
		SER – NON	12	-7.275	<0.001 ***
	♀ vs ♂	NON-NON	12	-9.007	<0.001 ***
Phenoloxidase activating factor	♀	PBS – NON	12	-0.686	0.98
		SER – PBS	12	-4.609	0.006**
		SER – NON	12	-5.294	0.002 **
	♂	PBS – NON	12	-3.505	0.04*
		SER – PBS	12	3.107	0.08
		SER – NON	12	-0.398	1.00
	♀ vs ♂	NON-NON	12	-2.547	0.19