Fig. S1. Results of experimental group comparisons based on raw Ct values instead of ΔCt differed for most of the transcripts. Significant group differences for each transcript at each time point are indicated by letters above the respective bars.
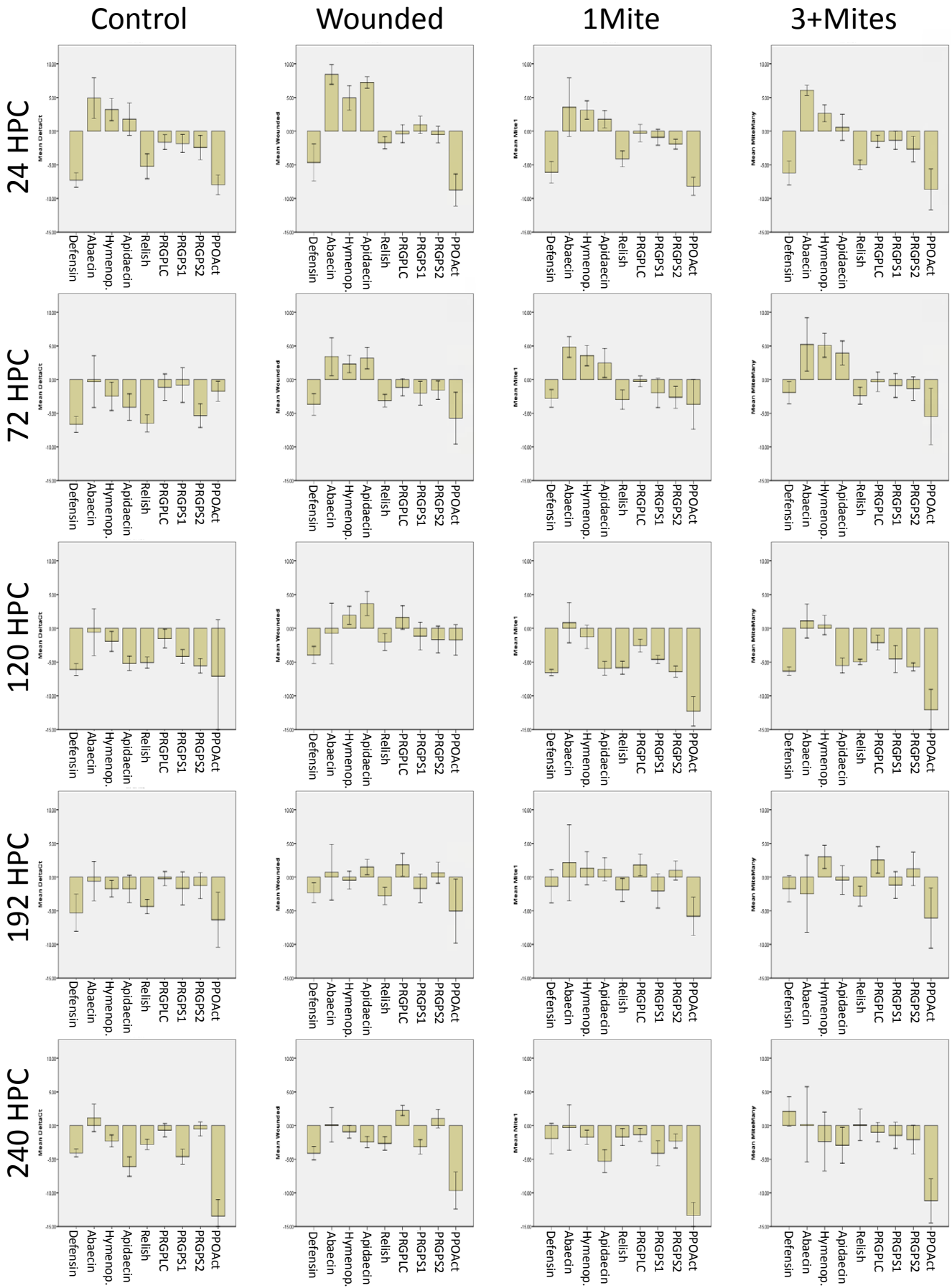
Fig. S2. Patterns of ΔCt values of immune genes relative to each other for any given time point and experimental group allows for visual inspection of the similarities across time and across experimental treatments.

Table S1. Overall, mixed-model ANOVA results for raw C_t values of all studied transcripts

Transcript	Factor	Result
Abaecin	Treatment	**$F_{(3,7.9)} = 4.3, p = 0.045$**
	Timepoint	**$F_{(4,11)} = 14.8, p < 0.001$**
	Hive	$F_{(2,2.3)} = 13.6, p = 0.055$
	Treatment x Timepoint	$F_{(12,28.3)} = 1.9, p = 0.075$
	Treatment x Hive	$F_{(6,27.3)} = 10.0, p = 0.460$
	Timepoint x Hive	$F_{(8,25)} = 0.8, p = 0.647$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.8, p = 0.704$
α-Tubulin	Treatment	**$F_{(3,7.7)} = 6.1, p = 0.020$**
	Timepoint	**$F_{(4,11.8)} = 15.8, p < 0.001$**
	Hive	$F_{(2,4.1)} = 4.7, p = 0.087$
	Treatment x Timepoint	**$F_{(12,31.5)} = 6.5, p < 0.001$**
	Treatment x Hive	$F_{(6,29.9)} = 1.5, p = 0.206$
	Timepoint x Hive	$F_{(8,26.5)} = 0.9, p = 0.552$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.6, p = 0.945$
Apidaecin	Treatment	**$F_{(3,8.1)} = 15.6, p = 0.001$**
	Timepoint	**$F_{(4,9.8)} = 105.4, p < 0.001$**
	Hive	$F_{(2,5.2)} = 0.7, p = 0.529$
	Treatment x Timepoint	**$F_{(12,29.9)} = 11.4, p < 0.001$**
	Treatment x Hive	$F_{(6,28.6)} = 1.0, p = 0.417$
	Timepoint x Hive	$F_{(8,25.7)} = 1.5, p = 0.198$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.7, p = 0.870$
Defensin2	Treatment	**$F_{(3,8.5)} = 16.6, p = 0.001$**
	Timepoint	$F_{(4,9.3)} = 1.9, p = 0.198$
	Hive	$F_{(2,3.2)} = 0.3, p = 0.764$
	Treatment x Timepoint	**$F_{(12,27.1)} = 3.0, p = 0.009$**
	Treatment x Hive	$F_{(6,26.3)} = 0.6, p = 0.706$
	Timepoint x Hive	$F_{(8,24.4)} = 1.4, p = 0.251$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 1.0, p = 0.462$
DWV	Treatment	**$F_{(3,7.1)} = 10.8, p = 0.005$**
	Timepoint	$F_{(4,8.8)} = 1.8, p = 0.212$
	Hive	$F_{(2,9.7)} = 0.1, p = 0.892$
	Treatment x Timepoint	$F_{(12,31.0)} = 0.9, p = 0.542$
	Treatment x Hive	$F_{(6,29.5)} = 2.2, p = 0.069$
	Timepoint x Hive	**$F_{(8,26.2)} = 3.7, p = 0.005$**
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.6, p = 0.929$
Hymenoptaecin	Treatment	**$F_{(3,7.5)} = 9.2, p = 0.007$**
	Timepoint	**$F_{(4,9.5)} = 36.2, p < 0.001$**
	Hive	$F_{(2,5.0)} = 1.5, p = 0.309$
	Treatment x Timepoint	**$F_{(12,27.9)} = 5.0, p < 0.001$**
	Treatment x Hive	$F_{(6,27.0)} = 1.2, p = 0.339$
	Timepoint x Hive	$F_{(8,24.8)} = 1.4, p = 0.263$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.9, p = 0.635$
PGRP-LC	Treatment	$F_{(3,9.0)} = 3.5, p = 0.065$
	Timepoint	**$F_{(4,9.7)} = 12.2, p = 0.001$**
	Hive	$F_{(2,3.2)} = 2.4, p = 0.231$
	Treatment x Timepoint	**$F_{(12,28.6)} = 6.5, p < 0.001$**
	Treatment x Hive	$F_{(6,27.5)} = 0.7, p = 0.680$
	Timepoint x Hive	$F_{(8,25.1)} = 1.3, p = 0.278$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.8, p = 0.741$

PGRP-S1	Treatment	$\mathbf{F_{(3,8.0)} = 4.3, p = 0.043}$
	Timepoint	$\mathbf{F_{(4,11.3)} = 21.2, p < 0.001}$
	Hive	$F_{(2,2.6)} = 1.7, p = 0.330$
	Treatment x Timepoint	$F_{(12,29.2)} = 1.9, p = 0.072$
	Treatment x Hive	$F_{(6,28.0)} = 1.1, p = 0.413$
	Timepoint x Hive	$F_{(8,25.4)} = 0.8, p = 0.625$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.7, p = 0.813$
PGRP-S2	Treatment	$F_{(3,13.0)} = 1.5, p = 0.254$
	Timepoint	$\mathbf{F_{(4,13.7)} = 17.0, p < 0.001}$
	Hive	$F_{(2,0.1)} = 23.2, p = 0.663$
	Treatment x Timepoint	$\mathbf{F_{(12,31.9)} = 5.0, p < 0.001}$
	Treatment x Hive	$F_{(6,30.3)} = 0.4, p = 0.850$
	Timepoint x Hive	$F_{(8,26.6)} = 0.6, p = 0.750$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.5, p = 0.956$
PPOAct	Treatment	$F_{(3,6.5)} = 2.7, p = 0.130$
	Timepoint	$\mathbf{F_{(4,8.7)} = 10.7, p = 0.002}$
	Hive	$F_{(2,6.3)} = 0.7, p = 0.512$
	Treatment x Timepoint	$F_{(12,25.2)} = 1.7, p = 0.123$
	Treatment x Hive	$F_{(6,24.7)} = 2.0, p = 0.106$
	Timepoint x Hive	$F_{(8,23.5)} = 1.5, p = 0.222$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 1.6, p = 0.054$
Relish	Treatment	$\mathbf{F_{(3,8.5)} = 9.8, p = 0.004}$
	Timepoint	$\mathbf{F_{(4,10.2)} = 10.2, p = 0.001}$
	Hive	$F_{(2,2.5)} = 2.8, p = 0.231$
	Treatment x Timepoint	$\mathbf{F_{(12,28.3)} = 4.4, p = 0.001}$
	Treatment x Hive	$F_{(6,27.2)} = 0.8, p = 0.615$
	Timepoint x Hive	$F_{(8,25.0)} = 1.0, p = 0.457$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.8, p = 0.691$
RPS5a	Treatment	$\mathbf{F_{(3,8.0)} = 14.2, p = 0.001}$
	Timepoint	$\mathbf{F_{(4,33.6)} = 65.7, p < 0.001}$
	Hive	$F_{(2,0.5)} = 3.1, p = 0.545$
	Treatment x Timepoint	$\mathbf{F_{(12,30.0)} = 6.8, p < 0.001}$
	Treatment x Hive	$F_{(6,28.7)} = 1.1, p = 0.378$
	Timepoint x Hive	$F_{(8,25.8)} = 0.1, p = 0.996$
	Treatment x Timepoint x Hive	$F_{(22,151)} = 0.7, p = 0.877$