

**Table S2 JH-related genes in the other surveyed insects**

Pathways	Genes	Gene symbol	<i>D. melanogaster</i> (Diptera)	<i>A. gambiae</i> (Diptera)	<i>A. mellifera</i> (Hymenoptera)	<i>T. castaneum</i> (Coleoptera)	<i>D. plexippus</i> (Lepidoptera)
MVA pathway of JH biosynthesis	Acetoacetyl CoA thiolase	ACAT	CG9149	AGAP001318	GB47436	TC_10774	DPOGS205286
	Hydroxymethylglutaryl-CoA synthase	HMGS	CG4311	AGAP005847	GB44420	TC_09172	DPOGS214377
	Hydroxymethylglutaryl-CoA reductase	HMGR	CG10367	AGAP002288	GB51591	TC_14159	DPOGS213891
	Mevalonate kinase	MevK	CG16804	AGAP008947	GB47666	TC_15408	DPOGS207113
	Phosphomevalonate kinase	MevPK	CG10268	AGAP000338	GB49221	TC_00390	DPOGS202532
	Diphosphomevalonate decarboxylase	MevPPD	CG8239	AGAP001611	GB44718	TC_03224	DPOGS204657
	Isopentenyl-diphosphate delta-isomerase	IPPI	CG5919	AGAP001704	GB44492	TC_14514	DPOGS202251
	Farnesyl diphosphate synthetase	FPPS	CG12389	AGAP007104	-	TC_09257	-
	Farnesyl diphosphate synthetase-like protein 1	FPPS-11	-	-	GB52653	-	DPOGS207504
	Farnesyl diphosphate synthetase-like protein 2	FPPS-12	-	-	GB46095	-	DPOGS207505
	Farnesyl diphosphate synthetase-like protein 3	FPPS-13	-	-	GB46096	-	-
	Farnesyl diphosphate synthetase-like protein 4	FPPS-14	-	-	GB48899	-	-
	Farnesyl diphosphate synthetase-like protein 5	FPPS-15	-	-	GB48898	-	-
	Farnesyl diphosphate synthetase-like protein 6	FPPS-16	-	-	GB48897	-	-
Isoprenoid branch of JH biosynthesis	Farnesyl phosphatase	FPPase	CG15739	AGAP005972	-	-	-
	Farnesyl phosphatase-like protein 1	FPPase-11	-	-	GB42549	TC_07787	DPOGS213842
	Farnesyl phosphatase-like protein 2	FPPase-11	-	-	GB40767	TC_07788	DPOGS213511
	Farnesyl phosphatase-like protein3	FPPase-13	-	-	-	TC_07789	-
	Farnesol dehydrogenase	FOHSDR	-	-	-	-	DPOGS212697
	Farnesol dehydrogenase-like protein 1	FOHSDR-11	CG1386	AGAP005499	GB53986	TC_15554	-
	Farnesol dehydrogenase-like protein 2	FOHSDR-12	CG9360	AGAP005500	GB54417	TC_05026	-
	Farnesol dehydrogenase-like protein 3	FOHSDR-12	CG8757	AGAP005501	-	TC_15100	-
	Farnesol dehydrogenase-like protein 4	FOHSDR-12	CG3301	AGAP005502	-	TC_10240	-
	Farnesol dehydrogenase-like protein 5	FOHSDR-12	CG40485	AGAP005503	-	TC_10257	-
	Farnesol dehydrogenase-like protein 6	FOHSDR-12	CG40486	AGAP005645	-	TC_14887	-
	Farnesol dehydrogenase-like protein 7	FOHSDR-17	-	-	-	TC_15603	-
	Aldehyde dehydrogenase	ALDH	CG11140	AGAP005124	GB53314	-	-
	Aldehyde dehydrogenase-like protein 1	ALDH-11	-	-	-	TC_15554	DPOGS215931
	Aldehyde dehydrogenase-like protein 2	ALDH-12	-	-	-	TC_15978	DPOGS205397
	Aldehyde dehydrogenase-like protein 3	ALDH-13	-	-	-	TC_15979	-
	Aldehyde dehydrogenase-like protein 4	ALDH-14	-	-	-	TC_05623	-
	Aldehyde dehydrogenase-like protein 5	ALDH-15	-	-	-	TC_05624	-
	Aldehyde dehydrogenase-like protein 6	ALDH-16	-	-	-	TC_05625	-
	Juvenile hormone acid methyltransferase	JHAMT	CG17330	AGAP005256	GB44043	TC_08471	DPOGS214058
	Juvenile hormone acid methyltransferase-like protein 1	JHAMT-11	-	-	-	TC_08469	-
	Juvenile hormone acid methyltransferase-like protein 2	JHAMT-12	-	-	-	TC_08470	-
	Farnesoic acid O-methyltransferase	FAMeT	CG10527	AGAP009604	-	TC_03485	-
	Farnesoic acid O-methyltransferase-like protein 1	FAMeT-11	-	-	GB44422	-	DPOGS201446
	Farnesoic acid O-methyltransferase-like protein 2	FAMeT-12	-	-	GB51413	-	DPOGS208204
	Farnesoic acid O-methyltransferase-like protein 3	FAMeT-13	-	-	-	-	DPOGS211579
	Farnesoic acid O-methyltransferase-like protein 4	FAMeT-14	-	-	-	-	DPOGS210708
Farnesoic acid O-methyltransferase-like protein 5	FAMeT-15	-	-	-	-	DPOGS210709	
Cytochrome P450 15A1	Cyp15A1	-	-	GB48105	TC_02551	-	
Cytochrome P450 15C1	Cyp15C1	-	-	-	-	DPOGS211658	
Neuropeptide regulation of JH biosynthesis	Allatotropin	AT	-	AGAP012130	-	TC_06446	DPOGS213720
	Allatostatin	AS	CG13633	AGAP003712	GB47929	TC_05428	DPOGS211549
	Allatotropin receptor	ATR	CG5811	AGAP004783	GB44046	TC_09749	DPOGS209869
	Allatostatin receptor	ASR	CG2872	AGAP003658	GB43574	TC_12842	DPOGS213889
JH metabolism	Juvenile hormone esterase	JHE	CG8425	-	GB53755	TC_09696	DPOGS212826
	Juvenile hormone esterase-like 1	JHE-11	CG8424	AGAP005835	GB52052	-	-
	Juvenile hormone esterase-like 2	JHE-12	-	AGAP005836	-	-	-
	Juvenile hormone epoxide hydrolase	JHEH	CG15101	AGAP008684	GB42829	-	-
	Juvenile hormone epoxide hydrolase-like protein 1	JHEH-11	CG15102	AGAP008685	-	TC_03437	DPOGS202360
	Juvenile hormone epoxide hydrolase-like protein 2	JHEH-12	CG15106	AGAP008686	-	TC_03438	DPOGS209151
	Juvenile hormone epoxide hydrolase-like protein 3	JHEH-13	-	-	-	TC_02992	DPOGS202379

	Juvenile hormone epoxide hydrolase-like protein 4	JHEH-14	-	-	-	TC_03439	DPOGS211245
	Juvenile hormone epoxide hydrolase-like protein 5	JHEH-15	-	-	-	TC_03436	DPOGS214825
	Juvenile hormone epoxide hydrolase-like protein 6	JHEH-16	-	-	-	-	DPOGS214824
	Juvenile hormone epoxide hydrolase-like protein 7	JHEH-17	-	-	-	-	DPOGS214823
	Juvenile hormone epoxide hydrolase-like protein 8	JHEH-18	-	-	-	-	DPOGS214834
	Juvenile hormone diol kinase	JHDK	CG14904	AGAP004645	GB49705	TC_00753	-
	Juvenile hormone diol kinase-like protein 1	JHDK-11	-	-	-	-	DPOGS215250
	Juvenile hormone diol kinase-like protein 2	JHDK-12	-	-	-	-	DPOGS215249
	Juvenile hormone binding protein	JHBP	CG34316	AGAP004263	GB42798	TC_15180	DPOGS209220
JH signaling	FKBP39	FKBP39	CG6226	AGAP007473	GB48924	TC_05779	DPOGS208016
	Chd64	Chd64	CG14996	AGAP001313	GB51551	TC_02925	DPOGS205732
	Methoprene-tolerant/Methoprene-tolerant 1	Met/Met1	CG1705	AGAP006022	GB44365	TC_03908	DPOGS201662
	Germ cell expressed/Methoprene-tolerant 2	Gce/Met2	CG42739	-	-	-	DPOGS207197
	Ecdysone receptor	EcR	CG1765	AGAP012211	GB48059	TC_12112/TC_12113	DPOGS208114
	Ultraspiracle	USP	CG4380	AGAP002095	GB42692	TC_14027/TC_14028	DPOGS214137
	Kruppel homolog 1	Kr-h1	CG18783	AGAP009662	GB45427	TC_12990	DPOGS211127

Note: - represents no identification.