

**Table S1. Candidate genes potentially involved in feeding habit.**

Gene	Symbol	Accession <sup>1</sup>	GO ID	GO term	Reference
<i>Cyp6g1</i>	<i>Cyp6g1</i>	KF432201	0017085	"Response to insecticide"	[1] Jousсен et al. 2008
<i>foraging</i>	<i>for</i>	KF432198	0030536	"Larval feeding behavior"	[2] Fitzpatrick & Sokolowski 2004
<i>Glutamate dehydrogenase</i>	<i>Gdh</i>	KF432200	0006536	"Glutamate metabolic process"	[3] Bond and Sang 1968
<i>Jonah65Aiv</i>	<i>Jon65Aiv</i>	KF432196	0004252	"Serine-type endopeptidase activity"	[4] Ross et al. 2003
<i>Malvolio</i>	<i>Mvl</i>	KF432194	0050916	"Sensory perception of sweet taste"	[5] Orgad et al. 1998
<i>PGRP-SC</i>	<i>PGRP-SC2</i>	KF432195	0006955	"Immune response"	[6] Werner et al. 2000
<i>RPS6-p70-protein kinase</i>	<i>S6k</i>	KF432199	0030536	"Larval feeding behavior"	[7] Wu et al. 2005
<i>Smooth</i>	<i>sm</i>	KF432197	008343	"Adult feeding behavior"	[8] Layalle et al. 2005

<sup>1</sup> Genbank accession numbers for *Co. hominivorax* sequence used for primer design

[1] Jousсен N, Heckel DG, Haas M, Schuphan I, and Schmidt B. 2008. Metabolism of imidacloprid and DDT by P450 CYP6G1 expressed in cell cultures of *Nicotiana tabacum* suggests detoxification of these insecticides in *Cyp6g1*-overexpressing strains of *Drosophila melanogaster*, leading to resistance. *Pest Manag Sci* 64:65-73. 10.1002/ps.1472.

[2] Fitzpatrick MJ, and Sokolowski MB. 2004. In Search of Food: Exploring the Evolutionary Link Between cGMP-Dependent Protein Kinase (PKG) and Behaviour. *Integr Comp Biol* 44:28-36. 10.1093/icb/44.1.28.

[3] Bond PA, and Sang JH. 1968. Glutamate dehydrogenase of *Drosophila* larvae. *J Insect Physiol* 14:341-359.

[4] Ross J, Jiang H, Kanost MR, and Wang Y. 2003. Serine proteases and their homologs in the *Drosophila melanogaster* genome: an initial analysis of sequence conservation and phylogenetic relationships. *Gene* 304:117-131.

[5] Orgad S, Nelson H, Segal D, and Nelson N. 1998. Metal ions suppress the abnormal taste behavior of the *Drosophila* mutant malvolio. *J Exp Biol* 201:115-120.

[6] Werner T, Liu G, Kang D, Ekengren S, Steiner H, and Hultmark D. 2000. A family of peptidoglycan recognition proteins in the fruit fly *Drosophila melanogaster*. *Proc Natl Acad Sci U S A* 97:13772-13777. 10.1073/pnas.97.25.13772.

[7] Wu Q, Zhang Y, Xu J, and Shen P. 2005. Regulation of hunger-driven behaviors by neural ribosomal S6 kinase in *Drosophila*. *Proc Natl Acad Sci U S A* 102:13289-13294. 10.1073/pnas.0501914102.

[8] Layalle S, Coessens E, Ghysen A, and Dambly-Chaudiere C. 2005. Smooth, a hnRNP encoding gene, controls axonal navigation in *Drosophila*. *Genes Cells* 10:119-125. 10.1111/j.1365-2443.2005.00822.x.