G3 · Genes | Genomes | Genetics

# A Genetic Screen and Transcript Profiling Reveal a Shared Regulatory Program for *Drosophila* Linker Histone H1 and Chromatin Remodeler CHD1

Harsh Kavi, Xingwu Lu, Na Xu, Boris A. Bartholdy, Elena Vershilova, Arthur I. Skoultchi[4], and Dmitry V. Fyodorov[4]

Department of Cell Biology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461, USA

[4] Corresponding authors: Department of Cell Biology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461, USA. E-mail: arthur.skoultchi@einstein.yu.edu, dmitry.fyodorov@einstein.yu.edu

**DOI: 10.1534/g3.115.016709**

**Table S1 GO term analyses of genetic modifiers of *His1* effect on viability.**

| Gene Symbol | Biological evidence for the gene and/or gene product | Reference(s) |
|---|---|---|
| **Chromosome organization (biological function), GO:0051276** | | |
| *nopo* | Fly homolog of human E3 ligase TRIP; interacts with DNA polymerase η, regulates S to M transition during syncytial nuclear divisions. | (Wallace et al. 2014)<br>(Merkle et al. 2009) |
| *AGO1* | Component of miRNA-specific silencing machinery; was shown to regulate nuclear organization of PcG target loci. | (Williams and Rubin 2002)<br>(Grimaud et al. 2006) |
| *CG3358* | Fly ortholog of TatD-related DNAse TATDN1 that plays an important role in mitotic chromosome segregation. | (Yang et al. 2012) |
| *Sep5* | Nuclear GTPase and a component of microtubule-associated complex involved in cytokinesis. | (Hughes et al. 2008)<br>(Goldstein and Gunawardena 2000) |
| *E(Pc)* | Contributes to chromatin-dependent silencing; is not present in PRC1 or PRC2 but, rather, is a subunit of histone acetyltranferase complex TIP60 involved in both gene activation and repression; interacts with *ISWI*, which is involved in H1 deposition into chromatin. | (Sinclair et al. 1998)<br>(Stankunas et al. 1998)<br>(Kusch et al. 2004)<br>(Arancio et al. 2010) |
| *Elba2* | BEN domain-containing protein; associates with the *Fab-7* boundary/insulator element, promotes chromatin silencing. | (Aoki et al. 2012) |
| *Socs36E* | SH2 domain-containing suppressor of cytokine signaling; a negative regulator of the JAK/STAT cascade, which is involved, together with H1, in the establishment of heterochromatin silencing. | (Singh et al. 2010)<br>(Xu et al. 2014) |
| *c(2)M* | Component of the synaptonemal complex; required for reciprocal meiotic recombination. | (Heidmann et al. 2004) |
| *Chd1* | ATP-dependent nucleosome remodeling motor protein; essential for chromatin assembly in the nascent male pronucleus and for deposition of H3.3 at transcriptionally active loci. | (Konev et al. 2007) |
| **DNA binding (molecular function), GO:0003677** | | |
| *bsh* | Brain-specific homeobox protein. | (Hasegawa et al. 2013) |
| *vis* | Homeobox-containing TGIF-related transactivator. | (Hyman et al. 2003) |
| *inv* | Helix-turn-helix transcription factor. | (Simmonds et al. 1995) |
| *zf30C* | Zinc finger transcription factor. | (Jafari et al. 2012) |
| *CG3358* | Fly ortholog of TatD-related DNAse TATDN1. | (Yang et al. 2012) |
| *CG12744* | Zinc finger transcription factor. | (Jin et al. 2008) |
| *lola* | Zinc finger transcription factor. | (Giniger et al. 1994) |
| *Elba2* | BEN domain-containing protein, associates with the *Fab-7* element. | (Aoki et al. 2012) |
| *Chd1* | ATP-dependent nucleosome remodeling motor protein. | (Konev et al. 2007) |
| *c(2)M* | Component of the synaptonemal complex. | (Heidmann et al. 2004) |
| **Small GTPase-mediated signal transduction (biological function), GO:0007264** | | |
| *phyl* | Regulator of Notch and Wnt signaling pathways. | (Nagaraj and Banerjee 2009) |
| *CG15611* | Exhibits sequence similarity to fly Rho guanyl-nucleotide exchange factor TRIO. | (Bateman et al. 2000) |
| *CG8155* | Structurally similar to fly Rab GTPase activator Evi5. | (Laflamme et al. 2012) |
| *GEFmeso* | Mesoderm guanine nucleotide exchange, a binding target of Ras-like GTPase Ral. | (Blanke and Jackle 2006) |
| *RtGEF* | Homologous to mammalian Rho-type guanyl-nucleotide exchange factor Pix. | (Manser et al. 1998) |
| *Arf51F* | GTP-binding protein according to sequence similarity to human ADP-ribosylation factor 2, Arf2. | (Bobak et al. 1989) |
| *Sep5* | Belongs to the superfamily of Septin GTPases. | (O'Neill and Clark 2013) |
| **Gametogenesis (biological function), GO:0048477, GO:0007283** | | |
| *gbb* | Fly ortholog of human bone morphogenic protein-5 (BMP-5); was shown to be involved in BMP signaling that controls ovarian cell development. | (Kirilly et al. 2005) |
| *vis* | Transcription factor; required for regulation of multiple genes involved in sperm manufacture; mutants are male sterile due to a defect in primary | (Ayyar et al. 2003) |

| | | |
|---|---|---|
| | spermatocyte differentiation before the onset of meiotic divisions. | |
| *TBCB* | Tubulin-binding cofactor B, a ubiquitin-related domain-containing protein; regulates microtubule organization in the nucleus and controls oocyte polarity. | (Baffet et al. 2012) |
| *AGO1* | Plays central roles in female germ-line cell differentiation. | (Yang et al. 2007) |
| *Arf51F* | ADP ribosylation factor; is required for cytokinesis in spermatocytes. | (Dyer et al. 2007) |
| *stau* | dsRNA- and mRNA 3'-UTR-binding protein; regulates translation and mRNA localization of egg polarity genes *bicoid*, *gurken*, *nanos* and *oskar*. | (Johnstone and Lasko 2001) |
| *Lar* | Leukocyte antigen-related-like tyrosine phosphatase receptor protein; required for the establishment of cell polarity during oogenesis. | (Krueger et al. 2003) |
| *Edtp* | Egg-derived tyrosine phosphatase; essential for ovarian development, oogenesis and embryogenesis. | (Yamaguchi et al. 2005) |
| *Socs36E* | Functions in male germ-line stem cell maintenance. | (Issigonis et al. 2009)<br>(Singh et al. 2010) |
| *pAbp* | Polyadenylate-binding protein; essential for spermatid elongation; translationally regulates Grk (*gurken*), which is required for the establishment of the dorsal-ventral axis of a developing egg. | (Pertceva et al. 2010)<br>(Clouse et al. 2008) |
| *Chd1* | SNF2-like ATPase; functions in oogenesis and egg fertilization. | (Konev et al. 2007)<br>(McDaniel et al. 2008) |
| **Nervous system development and neural system processes (biological function), GO:0007399, GO:0050877** | | |
| *Dap160* | Dynamin-associated protein, contains EF-hand and SH3 domains, a negative regulator of Notch signaling; interacts with the atypical protein kinase C (aPKC) to stimulate neuroblast proliferation; similar to dynamin, regulates synaptic vesicle endocytosis. | (Chabu and Doe 2008)<br>(Koh et al. 2004) |
| *bsh* | Transcription factor; regulates neuronal identity specification. | (Hasegawa et al. 2013) |
| *phyl* | Zinc-binding protein; essential for the peripheral nervous system development and photoreceptor differentiation. | (Chang et al. 1995) |
| *gbb* | Part of the BMP signaling pathway; important for the neuromuscular junction development and synaptic transmission. | (James and Broihier 2011) |
| *CG5742* | Predicted ankyrin repeat-containing protein; was found to regulate neurogenesis in an RNAi screen in vivo in *Drosophila*. | (Neumuller et al. 2011) |
| *inv* | Transcription factor; regulates neuroblast fate determination. | (Bhat and Schedl 1997) |
| *lea* | Axon guidance receptor; regulates neuron migration. | (Simpson et al. 2000)<br>(Kraut and Zinn 2004) |
| *zf30C* | Transcription factor; regulates dendrite morphology in the developing brain. | (Parrish et al. 2006) |
| *spict* | Magnesium transmembrane transporter orthologous to human NIPA1; negatively regulates BMP signaling to promote synaptic growth at the neuromuscular junction. | (Wang et al. 2007) |
| *Pka-R2* | cAMP-dependent protein kinase R2; functions in repulsive axon guidance. | (Terman and Kolodkin 2004) |
| *spi* | TGF-$\alpha$-like ligand that triggers epidermal growth factor receptor (EGFR) activation to promote neuroepithelial proliferation and neuroblast formation in the optic lobe; as a component of EGFR signaling pathway, is important for olfactory learning in flies. | (Morante et al. 2013)<br>(Rahn et al. 2013) |
| *RtGEF* | Rho-type guanine nucleotide exchange factor; regulates postsynaptic structure and protein localization at the glutaminergic neuromuscular junction. | (Parnas et al. 2001) |
| *uzip* | Cell adhesion protein; functions in axon guidance in the *Drosophila* central nervous system. | (Ding et al. 2011) |
| *Arf51F* | GTP-binding protein; has a regulatory function in synaptic vesicle endocytosis. | (Lloyd et al. 2000) |
| *stau* | Regulator of translation, a major player in the establishment of long-term memory and neuronal plasticity. | (Dubnau et al. 2003) |
| *lola* | Transcription factor; regulates axonogenesis, brain morphogenesis and eye development. | (Giniger et al. 1994)<br>(Yamamoto et al. 2008)<br>(Zheng and Carthew 2008) |

| | | |
|---|---|---|
| *Lar* | Tyrosine phosphatase receptor; plays a key role in the control of axon guidance. | (Krueger et al. 1996) |
| *E(Pc)* | Together with other subunits of the TIP60 HAT complex regulates dendrite targeting of olfactory neurons. | (Tea and Luo 2011) |
| **Stress response (biological function), GO:0006955, GO:0006952** | | |
| *nopo* | E3 ligase; likely plays a role in defense response, based on its homology with human TRAF-interacting protein TRIP. | (Lee et al. 1997) |
| *coro* | WD40 repeat-containing protein; belongs to a family of proteins involved in defense response to fungus. | (Jin et al. 2008) |
| *Gbp* | Growth blocking peptide; a potent cytokine that stimulates the expression of anti-microbial peptides. | (Tsuzuki et al. 2012) |
| *lola* | Transcription factor; functions in anti-microbial humoral response. | (Kleino et al. 2005) |
| *CG13551* | ATPase inhibitor, glycine-rich protein; has an in vitro activity in suppressing Gramm-positive bacteria. | (Feng et al. 2009) |
| *dnr1* | FERM domain- and RING finger-containing protein; an inhibitor of the immune deficiency (IMD) pathway at the level of initiator caspase Dredd. | (Guntermann et al. 2009) |
| *Jhl-21* | Leucine transmembrane transporter; belongs to a family of proteins involved in defense response to fungus. | (Jin et al. 2008) |
| *Traf4* | TNF receptor-associated factor; functions in the IMD pathway and plays a role in fly defense response to *Vibrio cholera*. | (Berkey et al. 2009) |

The known attributes and properties of genetic suppressors and enhancers of *His1* function in vivo that belong to enriched GO term classes are listed.

**Table S2 Overlap of transcripts regulated by CHD1, H1, HP1 and ISWI.**

| SYMBOL/ TRANSCRIPT | FLYBASE ID | FOLD CHANGE | | | |
|---|---|---|---|---|---|
| | | ***Chd1*** | **H1 KD** | **HP1 KD** | **ISWI KD** |
| ***Chd1* effect: *UP*** | | | | | |
| **detoxification** | | | | | |
| *Gclc* | FBgn0040319 | **2.04** | | | |
| *GstT4* | FBgn0030484 | **2.11** | **2.14** | **2.28** | |
| *Cyp12b2* | FBgn0034387 | **2.22** | | | |
| *Cyp4ac3* | FBgn0031695 | **2.25** | **29.44** | | |
| *Cyp18a1* | FBgn0010383 | **2.28** | | | |
| *Cyp28a5* | FBgn0028940 | **2.30** | **2.27** | | |
| *Cyt-b5-r* | FBgn0000406 | **2.57** | **10.17** | | **0.393** |
| *GstD6* | FBgn0010042 | **2.68** | **13.24** | | |
| *CG4623* | FBgn0035587 | **3.16** | | | |
| *Cyp9c1* | FBgn0015040 | **3.41** | | **6.66** | |
| *Cyp6a18* | FBgn0039519 | **3.81** | | | |
| *Ugt86Dj* | FBgn0040250 | **3.92** | | | |
| *Cyp9h1* | FBgn0033775 | **4.06** | | | |
| *GstE6* | FBgn0063494 | **4.17** | **43.50** | **2.95** | |
| *Cyp313a3* | FBgn0038007 | **5.03** | | | |
| *Cyp6a9* | FBgn0013771 | **5.28** | **2.30** | | |
| *Cyp4d8* | FBgn0015033 | **5.74** | **2.40** | | |
| *Cyp6a23* | FBgn0033978 | **5.98** | **16.25** | | **3.07** |
| *GstE7* | FBgn0063493 | **8.94** | | **3.78** | |
| *GstE5* | FBgn0063495 | **12.3** | **29.07** | | |
| *Cyp6a2* | FBgn0000473 | **30.5** | | **2.21** | |
| *Cyp4p2* | FBgn0033395 | **40.2** | **4.52** | | |
| *Cyp4e3* | FBgn0015035 | **73.0** | **7.07** | | |
| **development** | | | | | |
| *Iris* | FBgn0031305 | **2.00** | | | |
| *Idgf3* | FBgn0020414 | **2.00** | **3.07** | | |
| *hts* | FBgn0263391 | **2.04** | | | |
| *CG13461* | FBgn0036468 | **2.14** | **5.69** | | |
| *Rbp9* | FBgn0010263 | **2.23** | **2.02** | | |
| *rad50* | FBgn0034728 | **2.27** | **7.96** | | |
| *PH4alphaSG2* | FBgn0039779 | **2.35** | | | |
| *mbl* | FBgn0265487 | **2.45** | | | |
| CR_TC_RE65113 | | **2.51** | | | |
| *CG42390* | FBgn0259736 | **2.51** | **0.464** | | **2.48** |
| *CG15784* | FBgn0029766 | **2.68** | **3.42** | | |
| *Npc1b* | FBgn0261675 | **2.77** | | | |
| *bol* | FBgn0011206 | **2.91** | | | |
| *Glycogenin* | FBgn0265191 | **2.95** | | | |
| *lola* | FBgn0005630 | **3.12** | | | |
| *CG14265* | FBgn0040393 | **3.36** | | | |
| *chinmo* | FBgn0086758 | **3.46** | | | |
| *ine* | FBgn0011603 | **3.51** | **0.062** | | |
| *sens* | FBgn0002573 | **3.58** | | | |
| *Atf3* | FBgn0028550 | **3.81** | | | |
| *Jhl-26* | FBgn0028424 | **3.84** | **7.00** | **2.68** | |
| *metro* | FBgn0050021 | **3.86** | **0.084** | | |

| | | | | | |
|---|---|---|---|---|---|
| *CG5867* | FBgn0027586 | **3.97** | | | |
| *Est-Q* | FBgn0037090 | **4.06** | **5.17** | | |
| *Ftz-f1* | FBcl0153222 | **4.06** | | | |
| *Dh44-R2* | FBgn0033744 | **4.23** | **2.33** | | |
| *chinmo* | FBgn0086758 | **4.35** | | | |
| *CG10918* | FBgn0031178 | **4.76** | | | |
| *smp-30* | FBgn0038257 | **4.76** | **19.82** | | |
| *tx* | FBgn0263118 | **4.86** | | | |
| *fru* | FBgn0004652 | **5.13** | **2.85** | | |
| *smp-30* | FBgn0038257 | **5.46** | **19.82** | | |
| *CG32694* | FBgn0052694 | **5.54** | | | |
| *Msp300* | FBgn0261836 | **5.74** | | | |
| *lcs* | FBgn0028583 | **6.87** | | | |
| *LP09368* | FBcl0192001 | **7.94** | | | |
| *CG32071* | FBgn0052071 | **8.17** | | | |
| *CG42368* | FBgn0259714 | **42.2** | **0.471** | | |
| *CG16898* | FBgn0034480 | **69.1** | **6.66** | | |
| *l(2)efl* | FBgn0011296 | **85.6** | | | |
| **immune response** | | | | | |
| *kek5* | FBgn0031016 | **2.01** | | | |
| *Ect4* | FBgn0262579 | **2.06** | | **2.17** | |
| *SPE* | FBgn0039102 | **2.19** | **4.83** | | |
| *Tsp42Eh* | FBgn0033129 | **2.20** | | | |
| *Sr-CI* | FBgn0014033 | **2.46** | **4.37** | | |
| *CG8562* | FBgn0035779 | **2.57** | | | |
| *dl* | FBgn0260632 | **2.57** | | | |
| *ea* | FBgn0000533 | **2.60** | | | |
| *Tsp42Eg* | FBgn0033128 | **2.62** | | | |
| *ninaD* | FBgn0002939 | **2.71** | | | |
| *PebIII* | FBgn0011695 | **2.85** | | | |
| *Phae2* | FBgn0263235 | **2.85** | | | |
| *alpha-Est2* | FBgn0015570 | **2.85** | **2.17** | | |
| *TBCB* | FBgn0034451 | **2.97** | | | |
| *CG10433* | FBgn0034638 | **3.05** | **3.25** | | **0.487** |
| *CG5597* | FBgn0034920 | **3.07** | | | |
| *Ect4* | FBgn0262579 | **3.12** | | **2.17** | |
| *NimB1* | FBgn0027929 | **3.18** | | | |
| *CG15255* | FBgn0028950 | **3.46** | | | |
| *NimC1* | FBgn0259896 | **3.51** | | | |
| *CG3775* | FBgn0030425 | **3.53** | | | |
| *CG5791* | FBgn0040582 | **3.58** | | | |
| *Ser6* | FBgn0011834 | **3.78** | | | |
| *CG13947* | FBgn0031277 | **4.14** | **2.26** | | |
| *CG7248* | FBgn0036229 | **4.23** | | | |
| *CG5550* | FBgn0034160 | **4.38** | | | |
| *PGRP-SC1b* | FBgn0033327 | **4.47** | | | |
| *CG15293* | FBgn0028526 | **4.50** | **5.16** | | |
| *CG8620* | FBgn0040837 | **4.89** | **160.83** | | |
| *mthl8* | FBgn0052475 | **4.99** | **3.29** | | |
| *CG17974* | FBgn0034624 | **5.46** | | | |
| *spheroide* | FBgn0030774 | **5.74** | | | |
| *CG13324* | FBgn0033789 | **5.78** | | | |

| | | | | | |
|---|---|---|---|---|---|
| *CG9928* | FBgn0032472 | **5.86** | **19.55** | | |
| *TotC* | FBgn0044812 | **6.15** | **58.64** | | |
| *CG18179* | FBgn0036023 | **6.32** | | | |
| *Muc68Ca* | FBgn0036181 | **7.36** | | | **2.07** |
| *CG33178* | FBgn0053178 | **7.36** | | | |
| *CG5778* | FBgn0038930 | **7.57** | **27.36** | | |
| *Fmo-2* | FBgn0033079 | **9.00** | **9.77** | | |
| *CG14419* | FBgn0029639 | **12.1** | | | |
| *CG16775* | FBgn0036767 | **13.9** | | | |
| *Prx2540-2* | FBgn0033518 | **27.1** | **0.483** | | |
| *Mdr50* | FBgn0010241 | **54.6** | | | |
| **intracellular processes** | | | | | |
| *larp* | FBgn0261618 | **2.01** | | | |
| *Sec31* | FBgn0033339 | **2.01** | **0.483** | | |
| *dm* | FBgn0262656 | **2.03** | | | |
| *stau* | FBgn0003520 | **2.06** | | | |
| *mTTF* | FBgn0028530 | **2.10** | | | |
| *qless* | FBgn0051005 | **2.10** | | | |
| *Ndae1* | FBgn0259111 | **2.10** | **0.357** | **4.82** | |
| *Nf1* | FBgn0015269 | **2.14** | | | |
| *CG8503* | FBgn0033917 | **2.23** | | | |
| *form3* | FBgn0053556 | **2.28** | | | |
| *Msp300* | FBgn0261836 | **2.38** | | | |
| *CG5599* | FBgn0030612 | **2.41** | | | |
| *mbl* | FBgn0265487 | **2.53** | | | |
| *CG2681* | FBgn0024997 | **2.68** | | | |
| *Irbp* | FBgn0011774 | **2.71** | **14.23** | | |
| *CG3328* | FBgn0034985 | **2.75** | | | |
| *GluRIIC* | FBgn0046113 | **2.75** | | | |
| *phr* | FBgn0003082 | **2.79** | | | |
| *Obp56a* | FBgn0034468 | **2.79** | | | |
| *CG5205* | FBgn0038344 | **2.89** | **2.44** | | |
| *CG44085* | FBgn0264894 | **2.91** | | | |
| *Diver* | | **3.03** | **3.62** | | |
| *CG30118* | FBgn0050118 | **3.03** | **2.00** | | |
| *CG6503* | FBgn0040606 | **3.05** | **10.18** | | |
| *ng3* | FBgn0010295 | **3.05** | | | |
| *zormin* | FBgn0052311 | **3.34** | **0.456** | | |
| *ps* | FBgn0261552 | **3.34** | | | |
| *Skeletor* | FBgn0262717 | **3.48** | | | |
| *CG14661* | FBgn0037288 | **3.68** | | | |
| *CG6910* | FBgn0036262 | **3.73** | **2.65** | | |
| *CG12863* | FBgn0033948 | **3.78** | | | |
| *CG30285* | FBgn0050285 | **4.35** | **4.04** | | |
| *CG44013* | FBgn0264775 | **4.89** | | | |
| *Ude* | FBgn0039226 | **5.03** | | | **3.85** |
| *CG2120* | FBgn0030005 | **5.28** | | | |
| *CG44013* | FBgn0264775 | **5.46** | | | |
| *tobi* | FBgn0261575 | **5.94** | | | |
| *CG6839* | FBgn0036831 | **6.06** | | | |
| *CG7299* | FBgn0032282 | **6.63** | | | |
| *CG11659* | FBgn0038731 | **7.21** | | | |

| | | | | | |
|---|---|---|---|---|---|
| *CG5070* | FBgn0030824 | **8.69** | | | |
| *CG9757* | FBgn0003060 | **16.8** | | | |
| **metabolism** | | | | | |
| *CG30427* | FBgn0043792 | **2.00** | | | |
| *CG7149* | FBgn0031948 | **2.00** | | | |
| *Evi5* | FBgn0262740 | **2.01** | | | |
| *CG3902* | FBgn0036824 | **2.03** | | | |
| *CG11453* | FBgn0038734 | **2.04** | | | |
| *CG15534* | FBgn0039769 | **2.11** | | | |
| *Marf* | FBgn0029870 | **2.11** | | | |
| *CG40486* | FBgn0263830 | **2.13** | | | |
| *Unc-115b* | FBgn0260463 | **2.14** | | | |
| *CG9674* | FBgn0036663 | **2.16** | | | |
| *CG3523* | FBgn0027571 | **2.16** | **2.37** | | |
| *CG6733* | FBgn0039052 | **2.16** | | | |
| *su(r)* | FBgn0086450 | **2.17** | **3.20** | **2.45** | |
| *Men* | FBgn0002719 | **2.20** | **4.11** | | |
| *Amy-p* | FBgn0000079 | **2.20** | | | |
| *alpha-Est10* | FBgn0015569 | **2.22** | **3.40** | | |
| *CG43340* | FBgn0263077 | **2.22** | | **3.00** | |
| *CG32645* | FBgn0052645 | **2.22** | | | |
| *pgant4* | FBgn0051956 | **2.22** | | | |
| *CG17322* | FBgn0027070 | **2.22** | | | |
| *CG31475* | FBgn0051475 | **2.23** | | | |
| *AdSS* | FBgn0027493 | **2.23** | **2.01** | | |
| *GstZ2* | FBgn0037697 | **2.25** | | | |
| *nemy* | FBgn0261673 | **2.27** | | | |
| *Ugt86Da* | FBgn0040259 | **2.28** | **8.97** | **2.71** | |
| *CAHbeta* | FBgn0037646 | **2.30** | | | |
| *CG7920* | FBgn0039737 | **2.30** | | | |
| *Pepck* | FBgn0003067 | **2.30** | | **4.99** | **2.84** |
| *Spat* | FBgn0014031 | **2.31** | **2.38** | | |
| *Mocs1* | FBgn0263241 | **2.31** | | | |
| *CG32649* | FBgn0052649 | **2.31** | | | |
| *Pkc53E* | FBgn0003091 | **2.33** | **0.340** | | |
| *CG14655* | FBgn0037275 | **2.33** | | | |
| *CG13397* | FBgn0014417 | **2.33** | | | |
| *CG8129* | FBgn0037684 | **2.35** | **2.00** | | |
| *Ac78C* | FBgn0024150 | **2.38** | | | |
| *Kua* | FBgn0032850 | **2.38** | | | |
| *Ca-P60A* | FBgn0263006 | **2.43** | | | |
| *CG11162* | FBgn0030509 | **2.43** | | | |
| *CG32557* | FBgn0052557 | **2.46** | | | |
| *Uro* | FBgn0003961 | **2.48** | **2.13** | | |
| *CG3597* | FBgn0031417 | **2.48** | **2.08** | | |
| *CG3301* | FBgn0038878 | **2.48** | **0.448** | | |
| *Aldh* | FBgn0012036 | **2.48** | **2.56** | | |
| *CG5704* | FBgn0026570 | **2.50** | **2.10** | | |
| *CG1315* | FBgn0026565 | **2.51** | | | |
| *Ugt35a* | FBgn0026315 | **2.53** | **3.35** | **2.47** | |
| *drd* | FBgn0260006 | **2.55** | | | |
| *ACC* | FBgn0033246 | **2.57** | **7.19** | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *Tdc1* | FBgn0259977 | **2.57** | | | | |
| *CG1673* | FBgn0030482 | **2.58** | | | | |
| *AOX1* | FBgn0267408 | **2.60** | | | | |
| *Gpdh* | FBgn0001128 | **2.62** | **2.22** | | | |
| *CG1774* | FBgn0039856 | **2.64** | | | | |
| *CG10175* | FBgn0039084 | **2.66** | **0.481** | | | |
| *Jheh3* | FBgn0034406 | **2.68** | | **6.01** | | |
| *CG10827* | FBgn0038845 | **2.68** | | | | |
| *Gad1* | FBgn0004516 | **2.73** | | | | |
| *Est-6* | FBgn0000592 | **2.77** | **7.32** | | | |
| *CG33093* | FBgn0053093 | **2.79** | **7.39** | | | |
| *CG6074* | FBgn0039486 | **2.79** | **23.77** | | | |
| *Tie* | FBgn0014073 | **2.81** | **0.205** | | | |
| *CG8128* | FBgn0030668 | **2.83** | | | | |
| *alpha-Est8* | FBgn0015576 | **2.83** | | | **0.374** | |
| *CG5707* | FBgn0026593 | **2.87** | | | | |
| *CG13311* | FBgn0035929 | **2.89** | | | | |
| *Obp56e* | FBgn0034471 | **2.89** | | | | |
| *l(1)G0196* | FBgn0027279 | **2.89** | | | | |
| *CG14787* | FBgn0027793 | **2.91** | | | **17.33** | |
| *CG3841* | FBgn0032131 | **2.95** | | | | |
| *CG9993* | FBgn0034553 | **2.97** | | | | |
| *sls* | FBgn0086906 | **3.10** | **0.081** | | | |
| *CG30503* | FBgn0050503 | **3.14** | **0.392** | | **2.60** | |
| *CG14762* | FBgn0033250 | **3.16** | **33.48** | | | |
| *CG10165* | FBgn0032801 | **3.16** | **3.66** | | | |
| *Gbs-76A* | FBgn0036862 | **3.18** | | | | |
| *Ugt86Dh* | FBgn0040252 | **3.29** | | | | |
| *CG7025* | FBgn0031930 | **3.29** | | | | |
| *Cyp18a1* | FBgn0010383 | **3.32** | | | | |
| *Npc2h* | FBgn0039801 | **3.32** | **5.23** | | | |
| *Gpo-1* | FBgn0022160 | **3.32** | **3.37** | | **0.493** | |
| *RluA-1* | FBgn0051719 | **3.34** | | | | |
| *Ork1* | FBgn0017561 | **3.36** | **11.63** | | | |
| *Mipp1* | FBgn0026061 | **3.36** | **4.33** | | | |
| *CG15879* | FBgn0035309 | **3.39** | | | | |
| *CG42329* | FBgn0259229 | **3.41** | **3.51** | | | |
| *CG9466* | FBgn0032068 | **3.48** | | | | |
| *CG8708* | FBgn0033271 | **3.58** | **3.21** | | | |
| *CG3835* | FBgn0023507 | **3.58** | **3.69** | | | |
| *sls* | FBgn0086906 | **3.63** | **0.081** | | | |
| *fa2h* | FBgn0050502 | **3.66** | | | | |
| *CG1461* | FBgn0030558 | **3.66** | | | | |
| *CG8629* | FBgn0035742 | **3.89** | | | | |
| *CG10592* | FBgn0035619 | **3.97** | | | | |
| *CG15117* | FBgn0034417 | **4.06** | | | | |
| *CG32170* | FBgn0052170 | **4.06** | | | | |
| *Unc-89* | FBgn0053519 | **4.06** | | | | |
| *St3* | FBgn0265052 | **4.08** | | | | |
| *Gpdh* | FBgn0001128 | **4.29** | **2.22** | | | |
| *Mlc2* | FBgn0002773 | **4.29** | **2.31** | | | |
| *arg* | FBgn0023535 | **4.35** | **5.01** | | | |

| | | | | | |
|---|---|---|---|---|---|
| *CS-2* | FBgn0029091 | **4.50** | | | |
| *CG17843* | FBgn0038919 | **4.50** | | | |
| *AOX2* | FBgn0038348 | **4.69** | | | |
| *glob1* | FBgn0027657 | **4.72** | **6.42** | | |
| *CG30457* | FBgn0050457 | **4.79** | | | |
| *CG9743* | FBgn0039756 | **5.10** | **2.17** | | |
| *CG32751* | FBgn0052751 | **5.13** | | | |
| *CG9468* | FBgn0032069 | **5.13** | | | |
| *CG4753* | FBgn0036622 | **5.13** | **8.81** | | |
| *CG42249* | FBgn0259101 | **5.28** | | | |
| *CG12512* | FBgn0031703 | **5.31** | **11.53** | | |
| *Apoltp* | FBgn0032136 | **5.70** | **2.89** | **2.39** | **2.22** |
| *CG5150* | FBgn0035620 | **6.28** | | | |
| *vanin-like* | FBgn0040069 | **7.57** | | | |
| *CG8630* | FBgn0038130 | **8.22** | | | |
| *CG3106* | FBgn0030148 | **8.63** | | | |
| *CG14022* | FBgn0031700 | **8.69** | | | |
| *Odc2* | FBgn0013308 | **9.45** | | | |
| *CG14205* | FBgn0031034 | **13.4** | | | |
| *frac* | FBgn0035798 | **20.3** | | | |
| *Jhedup* | FBgn0034076 | **21.3** | | | |
| *CG11796* | FBgn0036992 | **22.9** | | | |
| *hgo* | FBgn0040211 | **23.4** | | | |
| *CG4716* | FBgn0033820 | **32.0** | **11.77** | | |
| *CG4716* | FBgn0033820 | **61.8** | **11.77** | | |
| *CG4757* | FBgn0027584 | **190** | **5.27** | | |
| **proteolysis** | | | | | |
| *CG9505* | FBgn0031805 | **2.00** | **2.72** | | |
| *CG18417* | FBgn0035780 | **2.01** | | | |
| *CG31821* | FBgn0051821 | **2.08** | | | |
| *Try29F* | FBgn0015316 | **2.10** | **2.28** | | |
| *CG18493* | FBgn0038701 | **2.14** | | | |
| *CG4721* | FBgn0039024 | **2.14** | **2.82** | | |
| *CG17739* | FBgn0033710 | **2.14** | | | |
| *CG4725* | FBgn0039022 | **2.20** | | | |
| *Kaz-m1* | FBgn0002578 | **2.30** | | | |
| *l(2)34Fc* | FBgn0261534 | **2.33** | | | |
| *scaf* | FBgn0033033 | **2.33** | | | |
| *CG6225* | FBgn0038072 | **2.38** | | | |
| *CG16712* | FBgn0031561 | **2.48** | **7.20** | **2.68** | |
| *Bace* | FBgn0032049 | **2.48** | | | |
| *iotaTry* | FBgn0015001 | **2.50** | | | |
| *stv* | FBgn0086708 | **2.53** | | **4.30** | |
| *CG17477* | FBgn0038479 | **2.58** | | | |
| *CG30043* | FBgn0050043 | **2.66** | | | |
| *CG6337* | FBgn0033873 | **2.71** | | | |
| *CG32483* | FBgn0052483 | **2.77** | | | **7.18** |
| *CG6048* | FBgn0029827 | **2.87** | | | |
| *CG5246* | FBgn0038484 | **2.91** | | | |
| *CG3604* | FBgn0031562 | **2.91** | **3.70** | | |
| *zetaTry* | FBgn0011556 | **2.99** | | | |
| *Nep1* | FBgn0029843 | **3.03** | | | |

| | | | | | |
|---|---|---|---|---|---|
| *CG4053* | FBgn0038482 | **3.10** | | | |
| *CG10472* | FBgn0035670 | **3.16** | | | |
| *CG11961* | FBgn0034436 | **3.25** | | | |
| *CG17475* | FBgn0038481 | **3.25** | | | |
| *CG13160* | FBgn0033720 | **3.41** | | | |
| *CG17134* | FBgn0032304 | **3.43** | | | |
| *CG10051* | FBgn0034437 | **3.81** | | | |
| *CG33127* | FBgn0053127 | **3.84** | | | |
| *CG33459* | FBgn0053459 | **3.86** | **10.43** | | |
| *CG30371* | FBgn0050371 | **4.08** | **0.160** | | |
| *CG31233* | FBgn0051233 | **4.14** | | | |
| *kappaTry* | FBgn0043471 | **4.38** | | | |
| *CG4653* | FBgn0030776 | **4.41** | | | |
| *CG31343* | FBgn0051343 | **4.41** | **12.63** | | |
| *lambdaTry* | FBgn0043470 | **4.47** | | | |
| *Sp212* | FBgn0053329 | **4.82** | | | |
| *CG1304* | FBgn0031141 | **5.35** | | | |
| *CG3513* | FBgn0031559 | **5.35** | **11.02** | | |
| *CG31198* | FBgn0051198 | **5.58** | | | |
| *CG8774* | FBgn0038136 | **7.73** | | | |
| *Spn47C* | FBgn0033574 | **7.73** | | | |
| *CG14820* | FBgn0035718 | **8.00** | | | |
| *CG31265* | FBgn0051265 | **9.06** | | | |
| *CG15254* | FBgn0028949 | **14.7** | | | |
| **signaling** | | | | | |
| *PKD* | FBgn0038603 | **2.04** | | **4.00** | |
| *moody* | FBgn0025631 | **2.06** | **2.28** | | |
| *Syn* | FBgn0004575 | **2.07** | **2.44** | | |
| *Fas2* | FBgn0000635 | **2.11** | | **0.479** | |
| *mthl6* | FBgn0035789 | **2.14** | | | |
| *CrzR* | FBgn0036278 | **2.16** | | | |
| *Ag5r* | FBgn0015010 | **2.19** | **6.17** | | |
| *Tk* | FBgn0037976 | **2.22** | | | |
| *Galphaf* | FBgn0010223 | **2.30** | **6.31** | | |
| *Amph* | FBgn0027356 | **2.35** | | | |
| *Dh31-R* | FBgn0052843 | **2.50** | | | |
| *CG12290* | FBgn0039419 | **2.57** | | | |
| *CG7054* | FBgn0038972 | **2.66** | **3.91** | | |
| *Pkcdelta* | FBgn0259680 | **2.71** | | | |
| *CG15529* | FBgn0039748 | **2.83** | | | |
| *Mctp* | FBgn0034389 | **2.95** | **0.300** | **2.11** | **2.25** |
| *Pde6* | FBgn0038237 | **2.95** | **5.21** | | |
| *CG5402* | FBgn0039521 | **3.39** | | | |
| *Ac76E* | FBgn0004852 | **3.43** | | | |
| *CG8907* | FBgn0038466 | **3.48** | **2.81** | | |
| *CG9498* | FBgn0031801 | **4.56** | **3.62** | | |
| *RyR* | FBgn0011286 | **8.88** | | | |
| **tissue structure** | | | | | |
| *CAP* | FBgn0033504 | **2.03** | **2.32** | | |
| *Ag5r2* | FBgn0020508 | **2.03** | | | |
| *Cpr97Eb* | FBgn0039481 | **2.04** | | | |
| *LamC* | FBgn0010397 | **2.08** | | | **2.95** |

| | | | | | |
|---|---|---|---|---|---|
| *CG8927* | FBgn0038405 | **2.08** | | | |
| *Idgf5* | FBgn0064237 | **2.11** | **2.30** | | |
| *Lcp65Af* | FBgn0020639 | **2.14** | | | |
| *CG14304* | FBgn0038629 | **2.16** | | | |
| *CG7298* | FBgn0036948 | **2.17** | | | |
| *kst* | FBgn0004167 | **2.19** | | | |
| *Acp1* | FBgn0014454 | **2.25** | | | |
| *Cht7* | FBgn0035398 | **2.27** | **0.194** | | |
| *verm* | FBgn0261341 | **2.28** | | | |
| *Cpr11B* | FBgn0030398 | **2.30** | | | |
| *Cda5* | FBgn0051973 | **2.33** | **0.109** | | |
| *obst-I* | FBgn0052304 | **2.33** | | | |
| *Cht6* | FBgn0263132 | **2.38** | | | |
| *CG4367* | FBgn0038783 | **2.39** | | | |
| *obst-H* | FBgn0053983 | **2.39** | **11.78** | | |
| *Cpr67Fa1* | FBgn0036108 | **2.41** | | | |
| *Gasp* | FBgn0026077 | **2.43** | | | |
| *Cpr67Fa2* | FBgn0036109 | **2.45** | | | |
| *CG7252* | FBgn0036226 | **2.46** | | | |
| *CG33468* | FBgn0053468 | **2.46** | **4.91** | **2.57** | |
| *nrm* | FBgn0262509 | **2.48** | | | |
| *Lcp65Ag3* | FBgn0086611 | **2.50** | | | |
| *Lcp65Ag2* | FBgn0020637 | **2.51** | | | |
| *Muc11A* | FBgn0052656 | **2.68** | | | |
| *CG32284* | FBgn0052284 | **2.69** | | | |
| *obst-F* | FBgn0036947 | **2.77** | | | |
| *Mur18B* | FBgn0030999 | **2.79** | | | |
| *CG43896* | FBgn0264488 | **2.85** | | | |
| *CG43896* | FBgn0264488 | **2.91** | | | |
| *Cpr62Bc* | FBgn0035281 | **2.95** | | | |
| *CG5883* | FBgn0036225 | **2.95** | | | |
| *PH4alphaSG1* | FBgn0051014 | **3.07** | | | |
| *Muc96D* | FBgn0051439 | **3.18** | | | |
| *PH4alphaPV* | FBgn0051015 | **3.27** | | | |
| *Tg* | FBgn0031975 | **3.41** | **0.241** | | |
| *Muc18B* | FBgn0031000 | **3.63** | **2.48** | | |
| *Cpr49Ah* | FBgn0033731 | **3.86** | | | |
| *Cpr11A* | FBgn0030394 | **3.97** | | | |
| *obst-E* | FBgn0031737 | **3.97** | | | |
| *CG10725* | FBgn0036362 | **4.20** | | | |
| *TwdlO* | FBgn0039438 | **4.35** | | | |
| *Mal-A3* | FBgn0002571 | **4.47** | | | |
| *ng2* | FBgn0010294 | **5.17** | | | |
| *Cpr49Af* | FBgn0033729 | **5.21** | | | |
| *ng1* | FBgn0002933 | **5.94** | | | |
| *CG10154* | FBgn0036361 | **6.68** | | | |
| *Muc55B* | FBgn0034294 | **6.96** | | | |
| *CG15515* | FBgn0039719 | **7.16** | | | |
| *CG4835* | FBgn0035607 | **10.1** | | | |
| *Cpr47Eb* | FBgn0033598 | **14.1** | **25.21** | | |
| *CG12491* | FBgn0034900 | **31.8** | **6.23** | | |
| **transport** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| *CG16989* | FBgn0025621 | **2.03** | | | |
| *Oatp74D* | FBgn0036732 | **2.04** | **2.37** | | |
| *Prestin* | FBgn0036770 | **2.06** | **2.22** | | |
| *CG7458* | FBgn0037144 | **2.06** | | | **0.413** |
| *CG11147* | FBgn0031734 | **2.10** | | | |
| *CG1718* | FBgn0031170 | **2.13** | **2.30** | | |
| *CG9702* | FBgn0039787 | **2.13** | | | |
| *CG11897* | FBgn0039644 | **2.14** | **5.52** | **2.61** | **2.59** |
| *CG5326* | FBgn0038983 | **2.16** | **2.44** | | |
| *CG7084* | FBgn0038938 | **2.16** | | | |
| *MRP* | FBgn0032456 | **2.16** | **2.08** | | |
| *CG6901* | FBgn0038414 | **2.17** | | | |
| *CG8028* | FBgn0031010 | **2.17** | | | |
| *CG9413* | FBgn0030574 | **2.20** | | | |
| *Mdr65* | FBgn0004513 | **2.27** | | | |
| *ppk6* | FBgn0034489 | **2.39** | | | |
| *p24-2* | FBgn0053105 | **2.39** | **0.122** | | |
| *CG31792* | FBgn0051792 | **2.43** | | | |
| *Vha100-4* | FBgn0038613 | **2.43** | | | |
| *CG30016* | FBgn0050016 | **2.50** | | | |
| *hoe1* | FBgn0041150 | **2.53** | | | |
| *Tsf1* | FBgn0022355 | **2.57** | **7.68** | | |
| *CG31743* | FBgn0032618 | **2.60** | | | **4.18** |
| *path* | FBgn0036007 | **2.60** | | | |
| *AQP* | FBgn0033807 | **2.64** | | | |
| *Smvt* | FBgn0039873 | **2.68** | | | |
| *Tsf1* | FBgn0022355 | **2.69** | **7.68** | | |
| *CG10505* | FBgn0034612 | **2.71** | | | |
| *Oatp58Dc* | FBgn0034716 | **2.73** | | | |
| *CG9981* | FBgn0030746 | **2.77** | | **9.00** | |
| *Calx* | FBgn0013995 | **2.81** | | | |
| *CG13124* | FBgn0032156 | **2.91** | | | |
| *Rab9* | FBgn0032782 | **2.93** | **2.56** | | |
| *CG17636* | FBgn0025837 | **2.97** | | | |
| *CG33281* | FBgn0053281 | **3.01** | | | |
| *Rh50* | FBgn0028699 | **3.01** | | | |
| *CG30272* | FBgn0050272 | **3.05** | | | |
| *Oatp33Eb* | FBgn0032435 | **3.14** | | | |
| *CG7912* | FBgn0039736 | **3.16** | | | |
| *CG8791* | FBgn0033234 | **3.20** | **13.03** | | |
| *salt* | FBgn0039872 | **3.27** | | | |
| *CG8051* | FBgn0031012 | **4.03** | | | |
| *CG2187* | FBgn0017448 | **4.06** | **3.10** | | |
| *st* | FBgn0003515 | **4.06** | | | |
| *CG4830* | FBgn0037996 | **4.35** | | | |
| *CG6293* | FBgn0037807 | **4.99** | **3.59** | | |
| *CG9780* | FBgn0037230 | **5.13** | **17.37** | | |
| *CG18327* | FBgn0033904 | **5.66** | | | |
| *Nha2* | FBgn0263390 | **6.11** | | **2.32** | |
| *CG4991* | FBgn0030817 | **6.82** | **3.76** | | |
| *CG9825* | FBgn0034783 | **6.96** | | | |
| *CG8654* | FBgn0034479 | **9.85** | | | |

| **unknown function** | | | | | |
|---|---|---|---|---|---|
| *CG9682* | FBgn0039760 | **2.00** | | | |
| *CG11158* | FBgn0030511 | **2.01** | **2.73** | | |
| *Ilp8* | FBgn0036690 | **2.01** | | | |
| *CG17147* | FBgn0260393 | **2.01** | | | |
| *CG7992* | FBgn0031004 | **2.03** | | | |
| *CG15597* | FBgn0037420 | **2.03** | | | |
| *CG13360* | FBgn0025620 | **2.04** | | | |
| *CG15236* | FBgn0033108 | **2.04** | | | |
| *Piezo* | FBgn0264953 | **2.04** | | | |
| *Rcd2* | FBgn0037012 | **2.04** | **6.47** | | |
| *CG32485* | FBgn0052485 | **2.04** | | | |
| *CG11168* | FBgn0039249 | **2.06** | | | |
| *jp* | FBgn0032129 | **2.06** | **0.303** | | |
| *CG15523* | FBgn0039727 | **2.06** | **0.328** | | |
| *CG5399* | FBgn0038353 | **2.06** | **28.01** | **2.91** | |
| *CG5819* | FBgn0034717 | **2.07** | | | |
| *CG15043* | FBgn0030929 | **2.07** | | | |
| *CG8177* | FBgn0036043 | **2.08** | **0.177** | | |
| *CG8087* | FBgn0038241 | **2.08** | **0.445** | | |
| *CG31321* | FBgn0051321 | **2.10** | | | |
| *CG12075* | FBgn0030065 | **2.10** | | | |
| *CG7920* | FBgn0039737 | **2.10** | | | |
| *CG14907* | FBgn0038455 | **2.10** | **6.93** | | |
| *Tyler* | FBgn0031038 | **2.10** | **2.09** | | |
| *CG12826* | FBgn0033207 | **2.10** | **6.33** | | |
| *CG5506* | FBgn0036766 | **2.10** | | | |
| *LP09564* | FBcl0187291 | **2.10** | | | |
| *Pebp1* | FBgn0038973 | **2.11** | | | |
| *CG32714* | FBgn0260483 | **2.13** | | | |
| *CG10936* | FBgn0034253 | **2.14** | **9.27** | | |
| *CG13806* | FBgn0035325 | **2.14** | | | |
| *Rootletin* | FBgn0039152 | **2.16** | | | |
| *CG5084* | FBgn0034288 | **2.16** | | | |
| *GM03661* | FBcl0137693 | **2.16** | | | |
| *CG14456* | FBgn0037176 | **2.17** | | | |
| *atilla* | FBgn0032422 | **2.17** | | | |
| *CG2010* | FBgn0039667 | **2.20** | | | |
| *Pdxk* | FBgn0085484 | **2.22** | | | |
| *CG5767* | FBgn0034292 | **2.22** | | | |
| *CG8852* | FBgn0031548 | **2.23** | | | |
| *CG31974* | FBgn0051974 | **2.23** | **4.74** | | **2.12** |
| *CG40198* | FBgn0058198 | **2.23** | | | |
| *CG12177* | FBgn0030510 | **2.25** | **6.26** | | |
| *CG43693* | FBgn0263776 | **2.27** | | | |
| *CG13912* | FBgn0035186 | **2.27** | | **2.23** | |
| *CG13003* | FBgn0030798 | **2.28** | | | |
| *Ect4* | FBgn0262579 | **2.28** | | **2.17** | |
| *CG11313* | FBgn0039798 | **2.30** | **5.46** | | |
| *CG14273* | FBgn0032024 | **2.30** | | | |
| *CG32603* | FBgn0052603 | **2.30** | | | |
| *CG5866* | FBgn0038508 | **2.31** | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *TwdlBeta* | FBgn0033658 | **2.31** | | | | |
| *CG31769* | FBgn0051769 | **2.33** | **2.49** | | | **0.380** |
| *CG4733* | FBgn0038744 | **2.33** | | | | |
| *CG34120* | FBgn0083956 | **2.35** | | | | |
| *CG6023* | FBgn0030912 | **2.35** | **2.88** | | | |
| *CG43078* | FBgn0262508 | **2.35** | | | | |
| *CG2157* | FBgn0030244 | **2.35** | | | | |
| *CG9399* | FBgn0037715 | **2.36** | **2.74** | | | |
| *CG30411* | FBgn0050411 | **2.36** | **0.040** | | | |
| *CG9568* | FBgn0032087 | **2.38** | | | | |
| *CG31446* | FBgn0051446 | **2.38** | | | | |
| *CG18635* | FBgn0034279 | **2.38** | | | | |
| *GIIIspla2* | FBgn0030013 | **2.39** | | | | |
| *CG1698* | FBgn0033443 | **2.39** | | | | |
| *CG42249* | FBgn0259101 | **2.41** | | | | |
| *CG15199* | FBgn0030270 | **2.41** | **3.28** | | | |
| *CG31086* | FBgn0051086 | **2.41** | | | | |
| *CG9626* | FBgn0037565 | **2.46** | | | | |
| *CG31259* | FBgn0051259 | **2.48** | | | | |
| *CG17108* | FBgn0032285 | **2.48** | | | | |
| *CG14893* | FBgn0038451 | **2.50** | | | | |
| *CG5535* | FBgn0036764 | **2.51** | **7.41** | | | |
| *CG31269* | FBgn0051269 | **2.57** | | | | |
| *CG33469* | FBgn0053469 | **2.58** | | | | |
| *CG13323* | FBgn0033788 | **2.58** | | | | |
| *CG16820* | FBgn0032495 | **2.60** | | | | |
| *CR14033* | FBgn0046776 | **2.60** | **41.33** | | | |
| *CG31464* | FBgn0051464 | **2.64** | | | | |
| HDC07637 | | **2.64** | | | | |
| *ppk13* | FBgn0053508 | **2.66** | | | | |
| *SP1173* | FBgn0035710 | **2.71** | | | | |
| *ps* | FBgn0261552 | **2.71** | | | | |
| *CG7900* | FBgn0037548 | **2.71** | **2.96** | | | **0.476** |
| *Lmpt* | FBgn0261565 | **2.73** | | | | |
| *CG31288* | FBgn0051288 | **2.75** | **28.68** | | | |
| *CG17167* | FBgn0039941 | **2.75** | | | | |
| *CG12105* | FBgn0035241 | **2.75** | | | | |
| *Skeletor* | FBgn0262717 | **2.75** | | | | |
| *CG44250* | FBgn0265185 | **2.75** | | | | |
| *CG13492* | FBgn0034662 | **2.77** | | | | |
| *l(1)G0196* | FBgn0027279 | **2.79** | | | | |
| HDC03517 | | **2.79** | | | | |
| *CG43897* | FBgn0264489 | **2.79** | | | | |
| CT22789 | | **2.81** | | | | |
| *mtg* | FBgn0260386 | **2.83** | | | | **2.11** |
| *CR31781* | FBgn0051781 | **2.85** | **0.354** | | | |
| *CG15412* | FBgn0031528 | **2.85** | | | | |
| *CG11160* | FBgn0030257 | **2.87** | | | | |
| *CG10597* | FBgn0030832 | **2.87** | | | | |
| *CG15741* | FBgn0030338 | **2.91** | **76.88** | | | |
| *CG10732* | FBgn0036365 | **2.93** | | | | |
| *CG7631* | FBgn0028945 | **2.99** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| *CG32198* | FBgn0052198 | **3.12** | | | |
| *CG15213* | FBgn0040843 | **3.12** | | | |
| *CG7300* | FBgn0032286 | **3.16** | | | |
| *CG43427* | FBgn0263346 | **3.20** | | | |
| *CG14852* | FBgn0038242 | **3.20** | **0.084** | | |
| *CG34278* | FBgn0085307 | **3.25** | **4.76** | | |
| *CG13102* | FBgn0032088 | **3.32** | | | |
| *Cpr47Ec* | FBgn0033600 | **3.32** | | | |
| *Obp83g* | FBgn0046875 | **3.32** | | | |
| *CR31781* | FBgn0051781 | **3.34** | **0.354** | | |
| *GM10545* | FBcl0137569 | **3.34** | | | |
| HDC03535 | | **3.36** | | | |
| *CG15530* | FBgn0039752 | **3.41** | | | |
| *CG9396* | FBgn0037714 | **3.53** | **5.56** | | |
| CT37020 | | **3.56** | | | |
| *GstD7* | FBgn0010043 | **3.61** | **3.98** | | **12.65** |
| *CG13705* | FBgn0035582 | **3.78** | | | |
| *CG13946* | FBgn0040725 | **3.92** | **30.28** | | |
| *CG4962* | FBgn0036597 | **4.03** | | | |
| *CG14292* | FBgn0038658 | **4.11** | | | |
| *CG42565* | FBgn0260767 | **4.47** | | | |
| *CG32241* | FBgn0052241 | **4.72** | | | |
| *CG5810* | FBgn0038866 | **4.79** | | | |
| *CG13460* | FBgn0036471 | **4.79** | | | |
| *CG18649* | FBgn0036469 | **5.06** | | | |
| *CG11350* | FBgn0035552 | **5.28** | | | |
| *CG8773* | FBgn0038135 | **5.35** | | | |
| *CG43078* | FBgn0262508 | **5.58** | | | |
| *CG2064* | FBgn0033205 | **5.86** | **2.24** | | |
| *CG14120* | FBgn0036321 | **6.02** | | | |
| *CG14879* | FBgn0038419 | **6.15** | | | |
| *CG32073* | FBgn0052073 | **6.19** | **19.44** | | |
| *CG10953* | FBgn0034204 | **6.23** | | | |
| *CG9555* | FBgn0032085 | **8.00** | | | |
| *Cyp4p3* | FBgn0033397 | **8.75** | **9.73** | **2.75** | |
| *CG12506* | FBgn0031276 | **9.92** | **18.91** | | |
| *CG32564* | FBgn0052564 | **14.93** | **3.08** | | |
| *CG8534* | FBgn0037761 | **3.10** | | | |
| *CG13640* | FBgn0039237 | **6.23** | | | |
| ***Chd1* effect: *DOWN*** | | | | | |
| **detoxification** | | | | | |
| *Cyp312a1* | FBgn0036778 | **0.497** | | | |
| *Cyp6d5* | FBgn0038194 | **0.490** | | **3.00** | **13.46** |
| *Cyp309a1* | FBgn0031432 | **0.444** | **2.62** | | |
| *GstE3* | FBgn0063497 | **0.432** | | **5.89** | |
| *GstD10* | FBgn0042206 | **0.409** | | | |
| *Hsp22* | FBgn0001223 | **0.342** | **2.94** | | |
| *GstT3* | FBgn0031117 | **0.337** | **2.41** | | |
| *CG6762* | FBgn0030876 | **0.316** | | | |
| *Hsp26* | FBgn0001225 | **0.304** | | | |
| *GstE1* | FBgn0034335 | **0.304** | **2.21** | | |
| *MtnD* | FBgn0053192 | **0.287** | **12.01** | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *CG17323* | FBgn0032713 | **0.272** | | | | |
| *MtnC* | FBgn0038790 | **0.248** | | | | |
| *GstD2* | FBgn0010038 | **0.235** | **9.61** | **2.74** | | |
| *GstD4* | FBgn0010040 | **0.216** | | | | |
| *Hsp67Bc* | FBgn0001229 | **0.200** | **2.74** | **2.38** | | |
| *NLaz* | FBgn0053126 | **0.171** | | | | |
| *CG7227* | FBgn0031970 | **0.143** | **0.310** | | | |
| *MtnB* | FBgn0002869 | **0.092** | | | | |
| **development** | | | | | | |
| *yellow-d2* | FBgn0034856 | **0.497** | | | | |
| *sad* | FBgn0003312 | **0.493** | | | | |
| *rdo* | FBgn0243486 | **0.473** | **0.207** | | | |
| *ImpE1* | FBgn0001253 | **0.435** | | | | |
| *in* | FBgn0001259 | **0.432** | | | | |
| *neo* | FBgn0039704 | **0.409** | | | | |
| *CG15153* | FBgn0032663 | **0.361** | | | | |
| *CG18607* | FBgn0034429 | **0.344** | | | | |
| *nvd* | FBgn0259697 | **0.312** | | | | |
| *CG9005* | FBgn0033638 | **0.272** | **0.260** | | | |
| *ImpE1* | FBgn0001253 | **0.264** | | | | |
| *CG2016* | FBgn0250839 | **0.188** | | | | |
| *Eig71Ed* | FBgn0004591 | **0.184** | **0.127** | | | |
| *Yp3* | FBgn0004047 | **0.180** | | **16.14** | | |
| *Eip74EF* | FBgn0000567 | **0.176** | **0.341** | | | |
| *ImpE3* | FBgn0001255 | **0.171** | | | **2.10** | |
| *Eip78C* | FBgn0004865 | **0.144** | **0.136** | **2.12** | | |
| *ImpE2* | FBgn0001254 | **0.132** | | | | |
| *Eig71Ea* | FBgn0004588 | **0.126** | **0.037** | | | |
| *Eig71Ec* | FBgn0004590 | **0.115** | | | | |
| *slbo* | FBgn0005638 | **0.115** | **5.57** | | | |
| *Eig71Eg* | FBgn0004594 | **0.103** | **0.027** | | | |
| *Eig71Eb* | FBgn0004589 | **0.023** | **0.403** | | | |
| **immune response** | | | | | | |
| *sn* | FBgn0003447 | **0.476** | | | | |
| *Hsp27* | FBgn0001226 | **0.457** | | | **2.41** | |
| *Drs* | FBgn0010381 | **0.451** | **4.28** | **2.53** | **3.78** | |
| *Mtk* | FBgn0014865 | **0.438** | | **4.93** | **6.09** | |
| *CG8157* | FBgn0034010 | **0.374** | **3.95** | | | |
| *CG4091* | FBgn0034894 | **0.354** | | | | |
| *LysX* | FBgn0004431 | **0.344** | **33.21** | **2.92** | | |
| *AttA* | FBgn0012042 | **0.337** | | **7.68** | | |
| *E(spl)malpha-BFM* | FBgn0002732 | **0.334** | **3.57** | | | |
| *spz3* | FBgn0031959 | **0.332** | | | | |
| *Tsp42Ep* | FBgn0033137 | **0.332** | **0.395** | | | |
| *Atg7* | FBgn0034366 | **0.306** | | | | |
| *dsb* | FBgn0035290 | **0.301** | **0.423** | | | |
| *E(spl)m2-BFM* | FBgn0002592 | **0.291** | | | | |
| *CG9616* | FBgn0038214 | **0.289** | | | | |
| *NimC2* | FBgn0028939 | **0.287** | **0.140** | | | |
| *spirit* | FBgn0030051 | **0.266** | | | | |
| *Mmp1* | FBgn0035049 | **0.264** | **15.55** | **2.88** | **3.34** | |
| *wbl* | FBgn0004003 | **0.261** | **0.495** | | | |

| | | | | | |
|---|---|---|---|---|---|
| *Npc2e* | FBgn0051410 | **0.233** | **0.028** | | |
| *PGRP-SC2* | FBgn0043575 | **0.222** | **2.66** | **2.37** | |
| *santa-maria* | FBgn0025697 | **0.218** | **0.036** | | |
| *IM2* | FBgn0025583 | **0.218** | | | |
| *CG11425* | FBgn0037167 | **0.183** | | | |
| *CG2065* | FBgn0033204 | **0.163** | **9.00** | **2.72** | |
| *CG3397* | FBgn0037975 | **0.162** | | **3.78** | |
| *Spn43Aa* | FBgn0024294 | **0.160** | **0.336** | | |
| *CG6429* | FBgn0046999 | **0.147** | | | |
| *IM3* | FBgn0040736 | **0.139** | **11.65** | | |
| *PGRP-SB1* | FBgn0043578 | **0.108** | | **3.12** | |
| *IM1* | FBgn0034329 | **0.104** | **33.02** | | |
| *Drsl5* | FBgn0035434 | **0.092** | | | |
| *Spn100A* | FBgn0039795 | **0.067** | | | |
| *CG13606* | FBgn0039161 | **0.042** | | | |
| *PGRP-SB2* | FBgn0043577 | **0.023** | **12.29** | | |
| *Drsl2* | FBgn0052279 | **0.020** | | | |
| **intracellular processes** | | | | | |
| *CG5745* | FBgn0038855 | **0.497** | | | |
| *CG17754* | FBgn0030114 | **0.490** | **2.66** | | **2.07** |
| *insc* | FBgn0011674 | **0.490** | | | |
| *CG8420* | FBgn0037664 | **0.490** | | | |
| *GV1* | FBgn0027790 | **0.486** | | | |
| *RpL22-like* | FBgn0034837 | **0.483** | | | |
| *RpS19b* | FBgn0039129 | **0.483** | | | |
| *His2B:CG17949* | FBgn0061209 | **0.476** | | | |
| *CG4496* | FBgn0031894 | **0.476** | **0.293** | | |
| *lbm* | FBgn0016032 | **0.476** | | | |
| *nsr* | FBgn0034740 | **0.476** | | | |
| *Eip71CD* | FBgn0000565 | **0.473** | | | |
| *Drep-3* | FBgn0028407 | **0.470** | | | |
| *CG32971* | FBgn0052971 | **0.470** | | | |
| *tbrd-1* | FBgn0039124 | **0.470** | | | |
| *Scr* | FBgn0003339 | **0.467** | | | |
| *sc* | FBgn0004170 | **0.460** | | | |
| *MED9* | FBgn0260401 | **0.457** | | | |
| *CG30431* | FBgn0050431 | **0.457** | | | |
| *en* | FBgn0000577 | **0.454** | | | |
| *CG17450* | FBgn0040028 | **0.454** | | | |
| *CG3726* | FBgn0029824 | **0.448** | | | |
| *thoc6* | FBgn0036263 | **0.448** | | | |
| *RpL37b* | FBgn0034822 | **0.444** | | | |
| *Lmpt* | FBgn0261565 | **0.444** | | | |
| *CG31642* | FBgn0051642 | **0.435** | | **79.80** | |
| *Hsp67Ba* | FBgn0001227 | **0.429** | **3.25** | | |
| *Dark* | FBgn0263864 | **0.418** | | | **2.02** |
| *CG31274* | FBgn0051274 | **0.418** | **0.342** | | **5.24** |
| *betaNACtes4* | FBgn0030566 | **0.415** | | | |
| *CG6891* | FBgn0030955 | **0.412** | | | |
| *CG12493* | FBgn0035571 | **0.406** | **117.75** | | |
| *GV1* | FBgn0027790 | **0.398** | | | |
| *CG18446* | FBgn0033458 | **0.395** | **2.05** | **2.27** | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *CG8335* | FBgn0033069 | **0.392** | | | | |
| *His1:CG31617* | FBgn0051617 | **0.387** | | | | |
| *Eip93F* | FBgn0264490 | **0.384** | | | | |
| *CR11386* | FBgn0260447 | **0.382** | | | | |
| *toy* | FBgn0019650 | **0.379** | **24.16** | | | |
| *E(spl)m7-HLH* | FBgn0002633 | **0.376** | | | | |
| *CG4080* | FBgn0035983 | **0.369** | **0.405** | | | |
| *Taf12L* | FBgn0031623 | **0.369** | **191.54** | | | |
| *betaNACtes3* | FBgn0052601 | **0.369** | | | | |
| *CG12477* | FBgn0036809 | **0.356** | | | | |
| *CG8679* | FBgn0032934 | **0.344** | | | | |
| *E(spl)m8-HLH* | FBgn0000591 | **0.337** | | | | |
| *toy* | FBgn0019650 | **0.332** | **24.16** | | | |
| *His2A:CG31618* | FBgn0051618 | **0.330** | | | | |
| *blanks* | FBgn0035608 | **0.321** | **98.58** | | **0.453** | |
| *CG4021* | FBgn0034659 | **0.281** | | | | |
| *CG7804* | FBgn0036496 | **0.270** | | | | |
| *CG9989* | FBgn0039593 | **0.261** | | **8.99** | | |
| *CG34434* | FBgn0250904 | **0.200** | | | | |
| *CG17386* | FBgn0033936 | **0.087** | | | | |
| *Chd1* | FBgn0250786 | **0.013** | | | | |
| **metabolism** | | | | | | |
| *CAH1* | FBgn0027844 | **0.493** | **2.25** | **2.30** | **2.11** | |
| *Ho* | FBgn0037933 | **0.493** | | | | |
| *CG1637* | FBgn0030245 | **0.486** | | | | |
| *CG1941* | FBgn0033214 | **0.486** | | | | |
| *CG7742* | FBgn0031690 | **0.486** | | | | |
| *CG3376* | FBgn0034997 | **0.486** | **0.330** | | | |
| *CLS* | FBgn0039360 | **0.476** | | | | |
| *wat* | FBgn0039620 | **0.470** | | | | |
| *CG5554* | FBgn0034914 | **0.463** | **0.379** | | | |
| *Sep5* | FBgn0026361 | **0.454** | **2.36** | | | |
| *Scp2* | FBgn0020907 | **0.451** | | | | |
| *Dyrk2* | FBgn0016930 | **0.448** | | **2.13** | | |
| *ade3* | FBgn0000053 | **0.444** | **0.423** | | | |
| *CG5854* | FBgn0039130 | **0.441** | **0.477** | | | |
| *CG1942* | FBgn0033215 | **0.426** | | | | |
| *Oscillin* | FBgn0031717 | **0.426** | **0.302** | | | |
| *CG15343* | FBgn0030029 | **0.423** | **0.124** | | **3.07** | |
| *CG18528* | FBgn0039189 | **0.423** | | | | |
| *CG4546* | FBgn0038373 | **0.418** | | | | |
| *CG9509* | FBgn0030594 | **0.415** | **0.147** | | | |
| *CG8565* | FBgn0030697 | **0.406** | | | | |
| *CG13833* | FBgn0039040 | **0.398** | | | | |
| *CG8112* | FBgn0037612 | **0.395** | **0.205** | | | |
| *CG3264* | FBgn0034712 | **0.392** | | | | |
| *Dhpr* | FBgn0035964 | **0.387** | | | | |
| *CG6287* | FBgn0032350 | **0.382** | | **2.03** | | |
| *CG11170* | FBgn0034705 | **0.379** | **0.365** | | | |
| *slow* | FBgn0035539 | **0.376** | **2.34** | | | |
| *CG4586* | FBgn0029924 | **0.376** | **0.432** | | | |
| *CG17191* | FBgn0039473 | **0.376** | | | | |

| | | | | | |
|---|---|---|---|---|---|
| *CG12539* | FBgn0030586 | **0.374** | | | |
| *MESR6* | FBgn0036846 | **0.361** | **0.364** | | |
| *CG33096* | FBgn0053096 | **0.361** | | | |
| *yellow-f* | FBgn0041710 | **0.358** | **0.330** | **2.09** | |
| *Pu* | FBgn0003162 | **0.356** | | | |
| *CG3940* | FBgn0037788 | **0.356** | | **8.33** | |
| *CG7320* | FBgn0036782 | **0.349** | | | |
| *Est-P* | FBgn0000594 | **0.342** | | | |
| *CG8100* | FBgn0036410 | **0.339** | | | |
| *Ady43A* | FBgn0026602 | **0.339** | | | |
| *Nmdmc* | FBgn0010222 | **0.330** | | | |
| *CG14946* | FBgn0032405 | **0.310** | | | |
| *Asph* | FBgn0034075 | **0.308** | **0.427** | | **2.25** |
| *Oat* | FBgn0022774 | **0.306** | **0.077** | | **3.00** |
| *AANATL2* | FBgn0031791 | **0.295** | **0.305** | | |
| *CG4842* | FBgn0036620 | **0.289** | | | |
| *spok* | FBgn0086917 | **0.289** | | | |
| *Ddc* | FBgn0000422 | **0.259** | | | |
| *CG5618* | FBgn0036975 | **0.252** | | | |
| *Acp63F* | FBgn0015585 | **0.237** | | | |
| *CG10178* | FBgn0032684 | **0.178** | | | |
| *CG5171* | FBgn0031907 | **0.149** | | **20.62** | |
| *yellow-c* | FBgn0041713 | **0.146** | | | **4.92** |
| *CG4382* | FBgn0032132 | **0.131** | | | |
| *CG8093* | FBgn0033999 | **0.113** | | | |
| *CG6277* | FBgn0039475 | **0.107** | | | |
| *w* | FBgn0003996 | **0.079** | **4.39** | | |
| *CG9452* | FBgn0036877 | **0.073** | | | |
| *CG18606* | FBgn0034428 | **0.069** | | | |
| *CG14406* | FBgn0030595 | **0.061** | **0.314** | | |
| *CG2070* | FBgn0033203 | **0.047** | | | |
| *St2* | FBgn0037665 | **0.045** | | | |
| *e* | FBgn0000527 | **0.042** | **2.93** | | **5.46** |
| **proteolysis** | | | | | |
| *hh* | FBgn0004644 | **0.497** | | | |
| *CG31778* | FBgn0051778 | **0.483** | | | |
| *S-Lap3* | FBgn0045770 | **0.457** | | | |
| *Rpt6R* | FBgn0039788 | **0.451** | **36.11** | | |
| *Spn88Eb* | FBgn0038299 | **0.451** | **6.72** | | |
| *S-Lap2* | FBgn0052351 | **0.451** | | | |
| *CG8586* | FBgn0033320 | **0.438** | | **6.89** | |
| *Sb* | FBgn0003319 | **0.432** | | | |
| *Spn42Dd* | FBgn0028988 | **0.426** | **0.341** | | |
| *CG11023* | FBgn0031208 | **0.420** | | | |
| *Sp7* | FBgn0037515 | **0.401** | | | **0.466** |
| *CG10764* | FBgn0034221 | **0.390** | | | **2.61** |
| *Jon99Ci* | FBgn0003358 | **0.376** | **2.55** | | |
| *CG4408* | FBgn0039073 | **0.374** | **0.260** | | |
| *CG8550* | FBgn0033742 | **0.361** | | | |
| *CG30289* | FBgn0050289 | **0.354** | **0.151** | | |
| *CG9850* | FBgn0034903 | **0.334** | | | |
| *CG31777* | FBgn0051777 | **0.323** | **2.75** | | |

| | | | | | |
|---|---|---|---|---|---|
| *CG4914* | FBgn0036436 | **0.323** | | | |
| *CG30288* | FBgn0050288 | **0.312** | **0.407** | | |
| *CG9850* | FBgn0034903 | **0.304** | | | |
| *Nep2* | FBgn0027570 | **0.283** | | **4.58** | |
| *NnaD* | FBgn0265726 | **0.266** | | | |
| *CG11529* | FBgn0036264 | **0.255** | | | |
| *CG3355* | FBgn0031619 | **0.252** | | | |
| *CG30098* | FBgn0050098 | **0.250** | | | |
| *SP1029* | FBgn0263236 | **0.200** | | | |
| *CG5470* | FBgn0038384 | **0.199** | | | |
| *CG30091* | FBgn0050091 | **0.187** | | | **11.62** |
| *CG4650* | FBgn0032549 | **0.173** | **3.36** | | |
| *CG1773* | FBgn0033439 | **0.168** | **0.148** | | |
| *CG3700* | FBgn0034796 | **0.157** | | | |
| *CG10073* | FBgn0034440 | **0.154** | | | |
| *CG3502* | FBgn0046253 | **0.153** | | | |
| *CG3097* | FBgn0029804 | **0.149** | | | |
| *CG7906* | FBgn0036417 | **0.139** | | | |
| *CG13748* | FBgn0033355 | **0.133** | | | |
| *CG7924* | FBgn0036416 | **0.076** | | | |
| *CG32762* | FBgn0052762 | **0.067** | | | |
| *CG11459* | FBgn0037396 | **0.062** | | | |
| *CG12951* | FBgn0037677 | **0.062** | | | |
| **signaling** | | | | | |
| *bib* | FBgn0000180 | **0.493** | | | |
| *SoxN* | FBgn0029123 | **0.483** | | | |
| *mthl5* | FBgn0037960 | **0.476** | | | **2.17** |
| *E(spl)m4-BFM* | FBgn0002629 | **0.470** | | | |
| *CG17760* | FBgn0033756 | **0.412** | **3.33** | | |
| *Takl1* | FBgn0046689 | **0.366** | | | |
| *CG6908* | FBgn0037936 | **0.328** | | | |
| *Wnt2* | FBgn0004360 | **0.304** | | | |
| *Buffy* | FBgn0040491 | **0.297** | **0.258** | | |
| *CG9259* | FBgn0032913 | **0.252** | | | |
| *CG32447* | FBgn0052447 | **0.228** | | | |
| *CG31104* | FBgn0051104 | **0.133** | | | |
| *Obp83ef* | FBgn0046876 | **0.063** | **0.106** | | |
| *CG11893* | FBgn0039316 | **0.045** | **40.01** | | |
| **tissue structure** | | | | | |
| *Cpr51A* | FBgn0033942 | **0.486** | **0.121** | | |
| *Cpr12A* | FBgn0030494 | **0.486** | | | |
| *Sema-2b* | FBgn0264273 | **0.476** | | | |
| *Pcp* | FBgn0003046 | **0.463** | **0.304** | | |
| *CG12009* | FBgn0035430 | **0.438** | | | |
| *a* | FBgn0000008 | **0.420** | | | |
| *CG11905* | FBgn0036678 | **0.374** | | | |
| *Ama* | FBgn0000071 | **0.371** | **2.27** | **2.31** | **3.01** |
| *TwdlE* | FBgn0031957 | **0.325** | | | |
| *CG14957* | FBgn0035412 | **0.270** | | | |
| *b* | FBgn0000153 | **0.250** | | | |
| *Lcp65Ae* | FBgn0020640 | **0.245** | | | |
| *mey* | FBgn0039851 | **0.235** | | | |

| | | | | | |
|---|---|---|---|---|---|
| *Lcp65Ad* | FBgn0020641 | **0.230** | | | |
| *Cpr65Ec* | FBgn0035737 | **0.230** | **2.41** | | |
| *Acp65Aa* | FBgn0020765 | **0.224** | | | |
| *CG5756* | FBgn0034301 | **0.177** | | | |
| *Cpr66Cb* | FBgn0035875 | **0.138** | | | |
| *CG14687* | FBgn0037835 | **0.136** | | | |
| *Muc68E* | FBgn0053265 | **0.080** | | | |
| **transport** | | | | | |
| *Porin2* | FBgn0069354 | **0.493** | | | |
| *CG7442* | FBgn0037140 | **0.490** | **0.403** | | |
| *CG5805* | FBgn0039223 | **0.486** | | | |
| *CG31787* | FBgn0051787 | **0.483** | | | |
| *Syx13* | FBgn0036341 | **0.480** | | | |
| *Atet* | FBgn0020762 | **0.470** | | | **2.06** |
| *CG8925* | FBgn0038404 | **0.438** | | | |
| *Orct* | FBgn0019952 | **0.426** | **0.287** | | |
| *Tsp42Ek* | FBgn0033133 | **0.418** | | | |
| *CG14855* | FBgn0038260 | **0.418** | **4.89** | | |
| *CG7777* | FBgn0033635 | **0.415** | **0.096** | | |
| *yin* | FBgn0265575 | **0.398** | | **2.05** | |
| *Glut1* | FBgn0264574 | **0.395** | | **2.11** | |
| *E23* | FBgn0020445 | **0.384** | **0.156** | | |
| *CG17036* | FBgn0032449 | **0.382** | | | |
| *CG13426* | FBgn0034510 | **0.356** | | | |
| *ZnT35C* | FBgn0028516 | **0.264** | | | |
| *twz* | FBgn0034636 | **0.232** | | | **4.25** |
| *CG3823* | FBgn0029863 | **0.212** | | | |
| *CG31636* | FBgn0051636 | **0.210** | | | |
| *CG2663* | FBgn0037323 | **0.209** | | | |
| *Oatp26F* | FBgn0051634 | **0.193** | | | |
| *CG1732* | FBgn0039915 | **0.189** | **2.49** | | |
| *bw* | FBgn0000241 | **0.163** | | | |
| *sut2* | FBgn0028562 | **0.159** | **2.00** | | |
| *CG3649* | FBgn0034785 | **0.147** | | | |
| *CG42269* | FBgn0259164 | **0.111** | | | |
| **unknown function** | | | | | |
| *CG5780* | FBgn0032446 | **0.500** | | | |
| *CG15525* | FBgn0039732 | **0.500** | | | |
| *CG2837* | FBgn0031646 | **0.497** | | | |
| *CG6685* | FBgn0036062 | **0.497** | | | |
| *CG18249* | FBgn0037553 | **0.497** | | | |
| *CG12674* | FBgn0031388 | **0.493** | | | |
| *CG1124* | FBgn0037290 | **0.493** | | | **5.25** |
| *CR6900* | FBgn0030958 | **0.493** | **0.489** | | |
| *CG11882* | FBgn0039642 | **0.490** | | | |
| *CG5968* | FBgn0032588 | **0.490** | | | |
| *CG13962* | FBgn0032824 | **0.490** | **2.09** | | |
| *CG15210* | FBgn0040850 | **0.490** | **0.350** | | |
| *CG9686* | FBgn0030158 | **0.486** | | | |
| HDC06936 | | **0.483** | **0.432** | | |
| *CG31600* | FBgn0051600 | **0.483** | | | |
| *CG12880* | FBgn0046258 | **0.483** | | | |

| | | | | | |
|---|---|---|---|---|---|
| *Atg18b* | FBgn0032935 | **0.480** | | | |
| *l(1)G0469* | FBgn0040153 | **0.480** | | | |
| *CG6675* | FBgn0032973 | **0.480** | | | |
| *CG8031* | FBgn0038110 | **0.480** | **0.390** | | |
| *CG3831* | FBgn0034804 | **0.480** | | | **2.22** |
| *IM18* | FBgn0067903 | **0.480** | | | |
| *CG10933* | FBgn0034264 | **0.476** | | | |
| *CG13905* | FBgn0035176 | **0.473** | | | |
| *MESK4* | FBgn0043069 | **0.473** | **0.342** | | **6.97** |
| *Mur29B* | FBgn0051901 | **0.470** | | | |
| CT36057 | | **0.470** | | | |
| *CG13618* | FBgn0039203 | **0.467** | | | |
| HDC06631 | | **0.467** | **2.80** | | |
| CT34146 | | **0.463** | | | |
| *CG32023* | FBgn0052023 | **0.460** | | | |
| *LD44795* | FBcl0167607 | **0.457** | | | |
| *TwdlT* | FBgn0029170 | **0.457** | | | |
| *orb2* | FBgn0264307 | **0.457** | | | |
| *CG42269* | FBgn0259164 | **0.457** | | | |
| *CG1999* | FBgn0029947 | **0.457** | | | |
| *CG31323* | FBgn0051323 | **0.457** | **0.254** | | |
| *CG13116* | FBgn0032139 | **0.454** | | **3.50** | |
| *CG31324* | FBgn0051324 | **0.454** | | | |
| *CG5194* | FBgn0035955 | **0.454** | | | |
| *CG10912* | FBgn0034296 | **0.448** | | | |
| *CG33096* | FBgn0053096 | **0.444** | | | |
| *CG11275* | FBgn0034706 | **0.444** | **0.279** | | |
| *CG18343* | FBgn0033683 | **0.444** | | | |
| *spz6* | FBgn0035056 | **0.444** | | | |
| *CG31538* | FBgn0051538 | **0.444** | | | |
| *CG11474* | FBgn0034688 | **0.444** | **0.238** | | |
| *CG14567* | FBgn0037126 | **0.441** | **0.369** | | |
| *CG9837* | FBgn0037635 | **0.441** | | | **0.320** |
| *CG34424* | FBgn0085453 | **0.441** | | | |
| *CG13255* | FBgn0040636 | **0.438** | **0.270** | | |
| *CG3223* | FBgn0037538 | **0.438** | | | |
| *CG32259* | FBgn0052259 | **0.438** | | | |
| *CG31861* | FBgn0051861 | **0.432** | | | |
| *CG13186* | FBgn0033680 | **0.432** | | | |
| *CG14109* | FBgn0036364 | **0.432** | **8.40** | | |
| *CIAPIN1* | FBgn0001977 | **0.432** | | | |
| *CG1273* | FBgn0035522 | **0.429** | | | |
| *CG33252* | FBgn0053252 | **0.429** | | | |
| *Gbp* | FBgn0034199 | **0.429** | | **8.40** | **2.72** |
| *CG18190* | FBgn0034403 | **0.429** | **8.35** | | |
| *CG13488* | FBgn0034670 | **0.426** | | | |
| *CG8160* | FBgn0034011 | **0.423** | **12.11** | | |
| *CG9801* | FBgn0037623 | **0.423** | **0.360** | | **4.13** |
| *CG4438* | FBgn0032115 | **0.423** | | | |
| *CG14275* | FBgn0032022 | **0.415** | **35.52** | | |
| *CG12655* | FBgn0031080 | **0.406** | **7.38** | | |
| *CG15544* | FBgn0039804 | **0.406** | | | **2.40** |

| | | | | | |
|---|---|---|---|---|---|
| *LP03188* | FBcl0187891 | **0.406** | | | |
| *CG15905* | FBgn0034462 | **0.403** | | | |
| *NnaD* | FBgn0265726 | **0.401** | | | |
| HDC12400 | | **0.398** | | | |
| *CG40294* | FBgn0058294 | **0.398** | | | |
| *CG7841* | FBgn0036502 | **0.398** | | | |
| *CG11737* | FBgn0037592 | **0.395** | | | |
| *CG31525* | FBgn0051525 | **0.392** | | | |
| *CG9040* | FBgn0036394 | **0.392** | **4.54** | | |
| CR_TC_GH03576 | | **0.390** | | | |
| *CG12470* | FBgn0040371 | **0.387** | | | |
| *Dtg* | FBgn0038071 | **0.387** | | | |
| *CG2444* | FBgn0030326 | **0.384** | | | |
| *nyo* | FBgn0039852 | **0.374** | | | |
| *CG15818* | FBgn0031910 | **0.374** | | | |
| *CG30417* | FBgn0050417 | **0.371** | | | |
| HDC14735 | | **0.371** | | | |
| *Ste* | FBgn0003523 | **0.366** | | | |
| *CG15068* | FBgn0040733 | **0.363** | **14.12** | | |
| *RE54004* | FBcl0204065 | **0.361** | | | |
| DM.2L.4959 | | **0.361** | | | |
| *CG7778* | FBgn0032025 | **0.356** | | | |
| *CG2201* | FBgn0032955 | **0.349** | | | |
| *CG13856* | FBgn0038959 | **0.342** | | | |
| *CG32115* | FBgn0052115 | **0.332** | **0.362** | | |
| *CG12481* | FBgn0030542 | **0.325** | | | |
| *CG13024* | FBgn0036665 | **0.325** | | | |
| *CG13082* | FBgn0032803 | **0.321** | | | |
| *CG1172* | FBgn0264712 | **0.316** | | | |
| *CG2082* | FBgn0027608 | **0.314** | **0.284** | | |
| *CG15208* | FBgn0030247 | **0.308** | | | |
| *CG33143* | FBgn0053143 | **0.304** | | | |
| *CG15756* | FBgn0030493 | **0.301** | | | |
| *CG10516* | FBgn0036549 | **0.293** | | | **2.10** |
| *CG18622* | FBgn0038460 | **0.291** | | | |
| *CG2082* | FBgn0027608 | **0.289** | **0.284** | | |
| *CG2277* | FBgn0035204 | **0.272** | | | |
| *CG5391* | FBgn0038943 | **0.268** | | | |
| *CG8483* | FBgn0038126 | **0.268** | | | |
| *CG13722* | FBgn0035553 | **0.238** | | | |
| *CG13314* | FBgn0035949 | **0.207** | | | |
| *CG16836* | FBgn0040735 | **0.207** | **20.27** | | |
| *CG16886* | FBgn0028938 | **0.204** | | | |
| *CG34296* | FBgn0085325 | **0.132** | | | |
| *CG4151* | FBgn0029770 | **0.117** | **0.366** | | |
| *CR43242* | FBgn0262887 | **0.097** | | **0.252** | |
| *pncr015:3L* | FBgn0063083 | **0.086** | | | |
| *CG5697* | FBgn0038846 | **0.045** | | | |
| *CG9822* | FBgn0034623 | **0.036** | | | |
| *CG42717* | FBgn0261634 | **0.032** | | | |

Transcripts that are up- or down-regulated by homozygous null mutation of *Chd1* in L3 larvae or RNAi-mediated depletion of H1 in L3 salivary glands, HP1 in Kc cells and ISWI in SL2 cells. Fold change is calculated from Affymetrix microarray data relative to wild-type control.

**Table S3 Overlap of transcripts regulated by HP1, H1 and CHD1.**

| SYMBOL/ TRANSCRIPT | FLYBASE ID | FOLD CHANGE | | |
|---|---|---|---|---|
| | | HP1 KD | H1 KD | *Chd1* |
| **HP1 depletion effect: *UP*** | | | | |
| *CR31451* | FBgn0051451 | **181.09** | **8.26** | |
| *CG31140* | FBgn0051140 | **79.80** | **6.31** | |
| *G6* | FBte0000958 | **67.66** | | |
| *CG31642* | FBgn0051642 | **51.14** | | **0.435** |
| *AT07338* | FBcl0481740 | **50.00** | | |
| *TART* | | **35.15** | | |
| *CG3635* | FBgn0032981 | **34.71** | **6.77** | |
| *CG18605* | FBgn0034411 | **24.98** | | |
| *Def* | FBgn0010385 | **22.33** | | |
| *CG10126* | FBgn0038088 | **21.46** | | |
| *springer* | FBte0000333 | **20.62** | | |
| *CG17124* | FBgn0032297 | **20.00** | **2.46** | |
| *gypsy6* | FBte0001175 | **19.16** | | |
| *CG11714* | FBgn0036170 | **19.04** | **3.88** | |
| *CG40295* | FBgn0058295 | **18.09** | **11.97** | |
| *HDC20537* | | **16.14** | **2.13** | |
| *CG5773* | FBgn0034290 | **15.22** | | |
| *CG13795* | FBgn0031937 | **13.84** | | |
| *CG5171* | FBgn0031907 | **12.85** | | **0.149** |
| *accord* | FBte0000956 | **11.76** | | |
| *CG5399* | FBgn0038353 | **11.64** | **28.01** | **2.06** |
| *CG32091* | FBgn0052091 | **10.80** | | |
| *edin* | FBgn0052185 | **10.48** | | |
| *CG32032* | FBgn0043806 | **10.10** | | |
| *gypsy2* | FBte0001040 | **9.84** | | |
| *tok* | FBgn0004885 | **9.72** | **2.11** | |
| *CG9691* | FBgn0030160 | **9.48** | | |
| *Yp3* | FBgn0004047 | **9.00** | | **0.180** |
| *invader3* | FBte0000619 | **8.99** | | |
| *CG13315* | FBgn0040827 | **8.90** | | |
| *CG3961* | FBgn0036821 | **8.86** | | |
| *CAH1* | FBgn0027844 | **8.65** | **2.25** | **0.493** |
| *AttC* | FBgn0041579 | **8.50** | | |
| *gypsy* | FBte0000021 | **8.45** | | |
| *Cyp6a13* | FBgn0033304 | **8.40** | **5.64** | |
| *Drs* | FBgn0010381 | **8.33** | **4.28** | **0.451** |
| *Idgf1* | FBgn0020416 | **8.29** | | |
| *Cyp12e1* | FBgn0037817 | **8.15** | | |
| *HMS-Beagle* | FBte0000726 | **7.86** | | |
| *CG33775* | FBgn0053775 | **7.68** | | |
| *KCNQ* | FBgn0033494 | **7.66** | | |
| *Gpb5* | FBgn0063368 | **7.47** | | |
| *Gr94a* | FBgn0041225 | **7.33** | **5.19** | |
| *CG33468* | FBgn0053468 | **7.30** | **4.91** | **2.46** |
| *CG4752* | FBgn0034733 | **7.25** | | |
| *CG9981* | FBgn0030746 | **7.06** | | **2.77** |
| *aret* | FBgn0000114 | **6.89** | | |

| | | | | |
|---|---|---|---|---|
| *CG45057* | FBgn0266417 | **6.74** | **2.20** | |
| *Cyp6d4* | FBgn0039006 | **6.66** | | |
| *CG40115* | FBgn0058115 | **6.47** | **10.26** | |
| *HDC20531* | | **6.34** | | |
| *Sid* | FBgn0039593 | **6.31** | | **0.261** |
| *CT39784* | | **6.11** | **14.84** | |
| *HDC20523* | | **6.01** | **2.81** | |
| *CG11672* | FBgn0037563 | **5.98** | | |
| *Tsf3* | FBgn0034094 | **5.89** | | |
| *Rh4* | FBgn0003250 | **5.82** | | |
| *CG10877* | FBgn0038804 | **5.73** | **0.157** | |
| *CG9717* | FBgn0039789 | **5.71** | | |
| *CG18473* | FBgn0037683 | **5.69** | **3.14** | |
| *bru-3* | FBgn0264001 | **5.67** | | |
| *rau* | FBgn0031745 | **5.63** | | |
| *CG15661* | FBgn0034605 | **5.55** | **12.72** | |
| *Gbp* | FBgn0034199 | **5.52** | | **0.429** |
| *CG3940* | FBgn0037788 | **5.43** | | **0.356** |
| *CG10799* | FBgn0033821 | **5.41** | **3.26** | |
| *PGRP-SD* | FBgn0035806 | **5.40** | | |
| *PGRP-SC2* | FBgn0043575 | **5.39** | **2.66** | **0.222** |
| *Cyp12e1* | FBgn0037817 | **5.34** | | |
| *CG14164* | FBgn0036057 | **5.31** | | |
| *AttA* | FBgn0012042 | **5.30** | | **0.337** |
| *CG4928* | FBgn0027556 | **5.30** | **0.315** | |
| *CG14695* | FBgn0037850 | **5.29** | | |
| *Zasp52* | FBgn0265991 | **5.26** | **0.492** | |
| *CG5367* | FBgn0032228 | **5.24** | | |
| *CG18446* | FBgn0033458 | **5.20** | **2.05** | **0.395** |
| *Mct1* | FBgn0023549 | **5.19** | **0.395** | |
| *invader4* | FBte0000292 | **5.17** | | |
| *Pka-C3* | FBgn0000489 | **5.16** | | |
| *CG17124* | FBgn0032297 | **5.14** | **4.46** | |
| *CG9919* | FBgn0030742 | **5.13** | | |
| *SPH93* | FBgn0032638 | **5.12** | **11.67** | |
| *Corp* | FBgn0030028 | **5.08** | **4.57** | |
| *Apoltp* | FBgn0032136 | **5.06** | **2.89** | **5.70** |
| *spir* | FBgn0003475 | **5.06** | | |
| *CG8586* | FBgn0033320 | **5.03** | | **0.438** |
| *CG11052* | FBgn0040524 | **5.03** | | |
| *yin* | FBgn0265575 | **5.00** | **0.449** | **0.398** |
| *CG43110* | FBgn0262570 | **4.99** | **0.432** | |
| *Cyp9c1* | FBgn0015040 | **4.93** | | **3.41** |
| *CG5381* | FBgn0032218 | **4.85** | | |
| *CG32687* | FBgn0052687 | **4.82** | **2.09** | |
| *Cad96Ca* | FBgn0022800 | **4.81** | | |
| *Tsp2A* | FBgn0024361 | **4.77** | | |
| *Cyp28d1* | FBgn0031689 | **4.76** | | |
| *Mctp* | FBgn0034389 | **4.72** | **0.300** | **2.95** |
| *Ama* | FBgn0000071 | **4.72** | **2.27** | **0.371** |
| *Jheh3* | FBgn0034406 | **4.69** | | **2.68** |
| *alphaTub67C* | FBgn0087040 | **4.63** | | |

| | | | | |
|---|---|---|---|---|
| *CG5731* | FBgn0032192 | **4.60** | **2.72** | |
| *GstE3* | FBgn0063497 | **4.59** | | **0.432** |
| *CG40124* | FBgn0058124 | **4.58** | **11.10** | |
| *CG5853* | FBgn0032167 | **4.57** | | |
| *CT39116* | | **4.56** | **103.1** | |
| *CG14606* | FBgn0037485 | **4.54** | | |
| *shf* | FBgn0003390 | **4.52** | **2.97** | |
| *CG1294* | FBgn0033030 | **4.49** | **4.55** | |
| *ItgalphaPS4* | FBgn0034005 | **4.49** | **3.91** | |
| *PGRP-SA* | FBgn0030310 | **4.46** | **2.20** | |
| *Cyp4p3* | FBgn0033397 | **4.43** | **9.73** | **8.75** |
| *CG6709* | FBgn0036056 | **4.43** | **2.66** | |
| *HDC20116* | | **4.41** | | |
| *Cyp12a5* | FBgn0038680 | **4.30** | | |
| *CG12698* | FBgn0030721 | **4.26** | | |
| *CG9170* | FBgn0030716 | **4.26** | **3.83** | |
| *qbert* | | **4.26** | | |
| *RpS5b* | FBgn0038277 | **4.25** | | |
| *AttB* | FBgn0041581 | **4.22** | | |
| *Hf* | FBgn0014000 | **4.22** | | |
| *l(3)neo38* | FBgn0265276 | **4.17** | | |
| *HDC20280* | | **4.17** | | |
| *CG6330* | FBgn0039464 | **4.15** | | |
| *beat-IIIc* | FBgn0032629 | **4.13** | **2.39** | |
| *alphaTub85E* | FBgn0003886 | **4.12** | | |
| *Swim* | FBgn0034709 | **4.11** | **9.06** | |
| *Mal-A5* | FBgn0050359 | **4.11** | | |
| *GstE11* | FBgn0034354 | **4.06** | **0.341** | |
| *CG2930* | FBgn0028491 | **4.06** | | |
| *Eip78C* | FBgn0004865 | **4.04** | **0.136** | **0.144** |
| *Epac* | FBgn0085421 | **4.01** | **9.43** | |
| *CG3246* | FBgn0031538 | **4.00** | | |
| *TpnC4* | FBgn0033027 | **4.00** | **3.70** | |
| *TART* | | **3.97** | | |
| *Myo28B1* | FBgn0040299 | **3.95** | **2.21** | |
| *CG14451* | FBgn0037183 | **3.94** | | |
| *kek1* | FBgn0015399 | **3.90** | **5.43** | |
| *Esyt2* | FBgn0266758 | **3.88** | | |
| *CG13117* | FBgn0032140 | **3.85** | **2.71** | |
| *CG40274* | FBgn0058274 | **3.85** | **5.22** | |
| *micropia* | FBte0000042 | **3.83** | | |
| *CG5322* | FBgn0032253 | **3.80** | | |
| *CG11400* | FBgn0034198 | **3.78** | **19.24** | |
| *CG16947* | FBgn0031816 | **3.78** | **0.285** | |
| *GATE* | FBte0000359 | **3.78** | | |
| *NT5E-2* | FBgn0050104 | **3.76** | **0.196** | |
| *CG9150* | FBgn0031775 | **3.72** | | |
| *spir* | FBgn0003475 | **3.67** | | |
| *Ir41a* | FBgn0040849 | **3.67** | | |
| *Tsp42Ed* | FBgn0029507 | **3.66** | | |
| *l(3)neo38* | FBgn0265276 | **3.65** | | |
| *l(3)neo38* | FBgn0265276 | **3.65** | | |

| | | | | |
|---|---|---|---|---|
| *CG12868* | FBgn0033945 | **3.64** | **2.74** | |
| *CG17032* | FBgn0036547 | **3.63** | | |
| *CG31272* | FBgn0051272 | **3.62** | | |
| *Hsp68* | FBgn0001230 | **3.60** | | |
| *loh* | FBgn0032252 | **3.59** | **2.15** | |
| *Tl* | FBgn0262473 | **3.58** | **2.30** | |
| *sdk* | FBgn0021764 | **3.58** | | |
| *CG4301* | FBgn0030747 | **3.58** | | |
| *aret* | FBgn0000114 | **3.58** | | |
| *rdgB* | FBgn0003218 | **3.58** | | |
| *bgm* | FBgn0027348 | **3.58** | **4.62** | |
| *vir-1* | FBgn0043841 | **3.56** | **8.76** | |
| *CG43658* | FBgn0263706 | **3.53** | | |
| *LysX* | FBgn0004431 | **3.51** | **33.21** | **0.344** |
| *eIF4E-6* | FBgn0039622 | **3.50** | | |
| *fend* | FBgn0030090 | **3.47** | **3.52** | |
| *CG3679* | FBgn0027521 | **3.43** | **4.21** | |
| *wrapper* | FBgn0025878 | **3.42** | | |
| *Glut1* | FBgn0264574 | **3.36** | **0.312** | **0.395** |
| *CG34232* | FBgn0085261 | **3.35** | | |
| *CG12926* | FBgn0033437 | **3.34** | **0.415** | |
| *HDC20112* | | **3.32** | | |
| *HMS-Beagle* | FBte0000726 | **3.32** | | |
| *Pepck* | FBgn0003067 | **3.29** | | **2.30** |
| *Mtk* | FBgn0014865 | **3.29** | | **0.438** |
| *Listericin* | FBgn0033593 | **3.28** | | |
| *Ugt35a* | FBgn0026315 | **3.27** | **3.35** | **2.53** |
| *Ndae1* | FBgn0259111 | **3.26** | | **2.10** |
| *rdgB* | FBgn0003218 | **3.26** | | |
| *CG4269* | FBgn0034741 | **3.25** | | |
| *sda* | FBgn0015541 | **3.24** | | |
| *CG17207* | FBgn0038051 | **3.24** | | |
| *mthl14* | FBgn0052476 | **3.23** | **15.70** | |
| *Spn31A* | FBgn0032178 | **3.22** | | |
| *CG5096* | FBgn0032235 | **3.19** | **3.96** | |
| *nerfin-2* | FBgn0041105 | **3.18** | | |
| *CG10405* | FBgn0038431 | **3.16** | | |
| *hiw* | FBgn0030600 | **3.15** | | |
| *Arc1* | FBgn0033926 | **3.15** | | |
| *CG6357* | FBgn0033875 | **3.14** | **10.96** | |
| *Nep2* | FBgn0027570 | **3.13** | | **0.283** |
| *d* | FBgn0262029 | **3.13** | | |
| *AttD* | FBgn0038530 | **3.13** | **72.76** | |
| *Fie* | FBgn0026592 | **3.12** | **2.46** | |
| *CG40040* | FBgn0058040 | **3.10** | | |
| *l(3)neo38* | FBgn0265276 | **3.10** | | |
| *CG32625* | FBgn0052625 | **3.09** | **39.17** | |
| *CG9360* | FBgn0030332 | **3.06** | **10.35** | |
| *CG3568* | FBgn0029710 | **3.03** | | |
| *CG31626* | FBgn0051626 | **3.00** | **19.15** | |
| *CG32313* | FBgn0052313 | **3.00** | | |
| *spir* | FBgn0003475 | **3.00** | **2.15** | |

| | | | | |
|---|---|---|---|---|
| *tyn* | FBgn0029128 | **3.00** | | |
| *hdm* | FBgn0029977 | **2.98** | | |
| *CG42822* | FBgn0262004 | **2.98** | | |
| *CG32944* | FBgn0052944 | **2.97** | | |
| *CG33346* | FBgn0053346 | **2.97** | | |
| *alpha-Est3* | FBgn0015571 | **2.97** | | |
| *CG5191* | FBgn0038803 | **2.97** | **0.403** | |
| *CG4297* | FBgn0031258 | **2.97** | **0.429** | |
| *dys* | FBgn0039411 | **2.96** | | |
| *Ef1alpha100E* | FBgn0000557 | **2.95** | | |
| *QC* | FBgn0052412 | **2.95** | | |
| *stv* | FBgn0086708 | **2.94** | | **2.53** |
| *ZnT77C* | FBgn0037000 | **2.92** | | |
| *CG8738* | FBgn0033321 | **2.91** | | |
| *CG3251* | FBgn0031622 | **2.90** | | |
| *d* | FBgn0262029 | **2.90** | | |
| *Idgf2* | FBgn0020415 | **2.90** | **2.56** | |
| *CG33494* | FBgn0053494 | **2.89** | | |
| *CG16749* | FBgn0037678 | **2.88** | | |
| *HDC20377* | | **2.86** | | |
| *CG33144* | FBgn0053144 | **2.86** | | |
| *Mdr49* | FBgn0004512 | **2.86** | **3.38** | |
| *Cyp6a8* | FBgn0013772 | **2.83** | | |
| *Cyp6a2* | FBgn0000473 | **2.80** | | **30.5** |
| *RapGAP1* | FBgn0264895 | **2.80** | **0.339** | |
| *CG6495* | FBgn0027550 | **2.80** | | |
| *CG32982* | FBgn0052982 | **2.79** | **2.33** | |
| *Cyp4p1* | FBgn0015037 | **2.79** | | |
| *GstD5* | FBgn0010041 | **2.78** | **20.38** | |
| *Het-A* | | **2.75** | | |
| *Kaz1-ORFB* | FBgn0063923 | **2.75** | **4.27** | |
| *CG30456* | FBgn0050456 | **2.74** | | |
| *wisp* | FBgn0260780 | **2.74** | | |
| *CG8349* | FBgn0032003 | **2.73** | | |
| *CHKov2* | FBgn0039328 | **2.72** | | |
| *CG8046* | FBgn0033388 | **2.71** | | |
| *R1* | | **2.71** | | |
| *Rbf* | FBgn0015799 | **2.71** | | |
| *CG4741* | FBgn0035040 | **2.70** | | |
| *CG2217* | FBgn0027544 | **2.69** | **0.431** | |
| *Ugt86Da* | FBgn0040259 | **2.68** | **8.97** | **2.28** |
| *btn* | FBgn0014949 | **2.68** | | |
| *Jhl-26* | FBgn0028424 | **2.68** | **7.00** | **3.84** |
| *AOX1* | FBgn0267408 | **2.67** | **14.75** | **2.60** |
| *stai* | FBgn0266521 | **2.67** | | |
| *Ir41a* | FBgn0040849 | **2.66** | | |
| *Ugt86Dd* | FBgn0040256 | **2.65** | **4.15** | |
| *PKD* | FBgn0038603 | **2.65** | | **2.04** |
| *Thor* | FBgn0261560 | **2.63** | | |
| *CG4398* | FBgn0034126 | **2.62** | **0.052** | |
| *CG14692* | FBgn0037836 | **2.61** | | |
| *CG16712* | FBgn0031561 | **2.60** | **7.20** | **2.48** |

| | | | | |
|---|---|---|---|---|
| *Arc1* | FBgn0033926 | **2.59** | **5.93** | |
| *Rhp* | FBgn0026374 | **2.57** | **0.328** | |
| *COX7AL* | FBgn0037579 | **2.57** | | |
| *CG8066* | FBgn0038243 | **2.56** | **5.94** | |
| *Muc14A* | FBgn0052580 | **2.56** | | |
| *CG15611* | FBgn0034194 | **2.56** | | |
| *Gs2* | FBgn0001145 | **2.55** | **3.09** | |
| *CG33784* | FBgn0053784 | **2.55** | | |
| *KFase* | FBgn0031821 | **2.53** | | |
| *Gnmt* | FBgn0038074 | **2.53** | **8.13** | |
| *CG17549* | FBgn0032774 | **2.52** | | |
| *pirk* | FBgn0034647 | **2.51** | | |
| *Doc2* | FBgn0035956 | **2.50** | | |
| *Hsp67Bc* | FBgn0001229 | **2.49** | **2.74** | **0.200** |
| *egr* | FBgn0033483 | **2.49** | | |
| *CG7191* | FBgn0031945 | **2.48** | | |
| *CG3397* | FBgn0037975 | **2.48** | | **0.162** |
| *GstE7* | FBgn0063493 | **2.48** | | **8.94** |
| *GstE10* | FBgn0063499 | **2.48** | | |
| *CG11897* | FBgn0039644 | **2.48** | **5.52** | **2.14** |
| *ome* | FBgn0259175 | **2.47** | | |
| *CG30022* | FBgn0050022 | **2.47** | | |
| *CG8008* | FBgn0033387 | **2.46** | | |
| *CG4822* | FBgn0031220 | **2.45** | **0.410** | |
| *CG5783* | FBgn0032670 | **2.45** | **0.388** | |
| *spri* | FBgn0085443 | **2.45** | | |
| *Traf4* | FBgn0026319 | **2.44** | | |
| *CG4829* | FBgn0030796 | **2.43** | | |
| *be* | FBgn0052594 | **2.42** | | |
| *CG8870* | FBgn0038144 | **2.41** | | |
| *Ptth* | FBgn0013323 | **2.39** | | |
| *KP78b* | FBgn0026063 | **2.38** | **6.25** | |
| *CG14692* | FBgn0037836 | **2.38** | | |
| *Ror* | FBgn0010407 | **2.38** | | |
| *CG14642* | FBgn0037222 | **2.37** | **3.23** | |
| *pdm3* | FBgn0261588 | **2.37** | | |
| *CG17029* | FBgn0036551 | **2.37** | | |
| *CG1358* | FBgn0033196 | **2.36** | | |
| *CG13813* | FBgn0036956 | **2.36** | | |
| *egr* | FBgn0033483 | **2.36** | | |
| *Inx3* | FBgn0265274 | **2.35** | | |
| *HDC20468* | | **2.35** | **8.59** | |
| *CG6287* | FBgn0032350 | **2.35** | | **0.382** |
| *CG43064* | FBgn0262366 | **2.34** | | |
| *Pask* | FBgn0034950 | **2.32** | | |
| *DptB* | FBgn0034407 | **2.32** | | |
| *CG32521* | FBgn0052521 | **2.32** | | |
| *mtt* | FBgn0050361 | **2.32** | | |
| *Mef2* | FBgn0011656 | **2.32** | | |
| *CG30022* | FBgn0050022 | **2.31** | | |
| *CG18547* | FBgn0037973 | **2.30** | **4.73** | |
| *Mmp1* | FBgn0035049 | **2.30** | **15.55** | **0.264** |

| | | | | |
|---|---|---|---|---|
| *GstD2* | FBgn0010038 | **2.30** | **9.61** | **0.235** |
| *Nha2* | FBgn0263390 | **2.29** | **2.28** | **6.11** |
| *IP3K2* | FBgn0266375 | **2.29** | | |
| *CG13116* | FBgn0032139 | **2.29** | | **0.454** |
| *Sip1* | FBgn0010620 | **2.29** | **0.396** | |
| *CG4502* | FBgn0031896 | **2.28** | | |
| *Ect4* | FBgn0262579 | **2.28** | | **2.06** |
| *yellow-f* | FBgn0041710 | **2.27** | **0.330** | **0.358** |
| *CG31743* | FBgn0032618 | **2.27** | | **2.60** |
| *tilB* | FBgn0014395 | **2.27** | | |
| *CG13893* | FBgn0035146 | **2.27** | | |
| *l(2)03659* | FBgn0010549 | **2.26** | **3.15** | |
| *CR32207* | FBgn0052207 | **2.26** | **12.38** | |
| *GstE2* | FBgn0063498 | **2.25** | | |
| *CG7255* | FBgn0036493 | **2.24** | **0.448** | |
| *CG31253* | FBgn0051253 | **2.24** | | |
| *eater* | FBgn0243514 | **2.24** | **8.00** | |
| *HDC20224* | | **2.23** | **5.63** | |
| *CG7203* | FBgn0031942 | **2.23** | | |
| *CG13912* | FBgn0035186 | **2.23** | | **2.27** |
| *CG42240* | FBgn0250869 | **2.23** | **0.403** | |
| *CG13698* | FBgn0036773 | **2.23** | | |
| *CG11686* | FBgn0040551 | **2.22** | | |
| *CG44325* | FBgn0265413 | **2.21** | | |
| *rst* | FBgn0003285 | **2.21** | **13.17** | |
| *GstT4* | FBgn0030484 | **2.21** | **2.14** | **2.11** |
| *CG7627* | FBgn0032026 | **2.21** | | |
| *IP3K2* | FBgn0266375 | **2.21** | | |
| *CG30485* | FBgn0050485 | **2.20** | | |
| *CG31038* | FBgn0051038 | **2.20** | | |
| *regucalcin* | FBgn0030362 | **2.20** | | |
| *CG14857* | FBgn0038262 | **2.20** | | |
| *GlyP* | FBgn0004507 | **2.19** | | |
| *Lsd-1* | FBgn0039114 | **2.19** | | |
| *CG3168* | FBgn0029896 | **2.19** | | |
| *Dyrk2* | FBgn0016930 | **2.18** | | **0.448** |
| *Tsp42Ea* | FBgn0029508 | **2.17** | | |
| *CG18063* | FBgn0028856 | **2.17** | | |
| *dnr1* | FBgn0260866 | **2.17** | | |
| *Rab23* | FBgn0037364 | **2.16** | **3.31** | |
| *CG4404* | FBgn0030432 | **2.16** | **2.28** | |
| *CG14291* | FBgn0038660 | **2.16** | | |
| *bbg* | FBgn0087007 | **2.15** | **0.392** | |
| *Hsp23* | FBgn0001224 | **2.15** | | |
| *clos* | FBgn0261016 | **2.15** | | |
| *CG32368* | FBgn0052368 | **2.13** | | |
| *CG43164* | FBgn0262720 | **2.12** | | |
| *CG13654* | FBgn0039290 | **2.12** | **2.49** | |
| *CG12428* | FBgn0039543 | **2.12** | | |
| *sick* | FBgn0263873 | **2.11** | | |
| *CG31436* | FBgn0051436 | **2.11** | | |
| *CG44251* | FBgn0265186 | **2.11** | **2.21** | |

| | | | | |
|---|---|---|---|---|
| *Inx2* | FBgn0027108 | **2.11** | | |
| *CG2065* | FBgn0033204 | **2.11** | **9.00** | **0.163** |
| *CDase* | FBgn0039774 | **2.10** | **2.07** | |
| *PGRP-SB1* | FBgn0043578 | **2.10** | | **0.108** |
| *CG12825* | FBgn0033221 | **2.10** | **2.64** | |
| *brp* | FBgn0259246 | **2.09** | | |
| *CG13650* | FBgn0039277 | **2.08** | | |
| *MESK2* | FBgn0043070 | **2.08** | | |
| *CG31274* | FBgn0051274 | **2.08** | **0.326** | **0.418** |
| *CG10283* | FBgn0032681 | **2.08** | | |
| *ebd2* | FBgn0037076 | **2.08** | | |
| *Ela* | FBgn0013949 | **2.08** | | |
| *pyd* | FBgn0262614 | **2.06** | | |
| *CG6231* | FBgn0038720 | **2.06** | | |
| *CecB* | FBgn0000278 | **2.06** | | |
| *CG14636* | FBgn0037217 | **2.05** | **0.355** | |
| *veil* | FBgn0034225 | **2.05** | | |
| *CG43340* | FBgn0263077 | **2.05** | | **2.22** |
| *CG30460* | FBgn0050460 | **2.05** | | |
| *Cyp6d5* | FBgn0038194 | **2.05** | | **0.490** |
| *CG31705* | FBgn0028490 | **2.05** | | |
| *PGRP-LA* | FBgn0035975 | **2.05** | | |
| *CG6701* | FBgn0033889 | **2.05** | | |
| *GstD9* | FBgn0038020 | **2.04** | | |
| *pdgy* | FBgn0027601 | **2.03** | | |
| *spri* | FBgn0085443 | **2.03** | | |
| *mlt* | FBgn0265512 | **2.03** | **4.24** | |
| *GstE6* | FBgn0063494 | **2.03** | **43.50** | **4.17** |
| *CG32436* | FBgn0052436 | **2.03** | | |
| *Cyp4e2* | FBgn0014469 | **2.03** | | |
| *Gel* | FBgn0010225 | **2.02** | | |
| *Sans* | FBgn0033785 | **2.02** | | |
| *Tep4* | FBgn0041180 | **2.02** | **3.86** | |
| *fat-spondin* | FBgn0026721 | **2.01** | | |
| *HDC03722* | | **2.00** | | |
| *HP1D3csd* | FBgn0030994 | **2.00** | | |
| *su(r)* | FBgn0086450 | **2.00** | **3.20** | **2.17** |
| *Ih* | FBgn0263397 | **2.00** | **2.34** | |
| **HP1 depletion effect: *DOWN*** | | | | |
| *CG32850* | FBgn0052850 | **0.498** | **4.43** | |
| *CG41128* | FBgn0069923 | **0.490** | **0.338** | |
| *CG3262* | FBgn0032986 | **0.486** | | |
| *Dbp80* | FBgn0024804 | **0.480** | | |
| *CG32350* | FBgn0052350 | **0.480** | | |
| *Acf1* | FBgn0027620 | **0.480** | | |
| *Fas2* | FBgn0000635 | **0.479** | | **2.11** |
| *ND-AGGG* | FBgn0058002 | **0.477** | | |
| *PlexB* | FBgn0025740 | **0.474** | | |
| *COX4L* | FBgn0033020 | **0.464** | | |
| *PlexB* | FBgn0025740 | **0.455** | | |
| *CG34330* | FBgn0085359 | **0.452** | **4.33** | |
| *CG6329* | FBgn0033872 | **0.435** | | |

| | | | | |
|---|---|---|---|---|
| *Nipped-A* | FBgn0053554 | **0.430** | | |
| *CG2709* | FBgn0024977 | **0.425** | | |
| *l(2)41Ab* | FBgn0262123 | **0.417** | **4.24** | |
| *dob* | FBgn0030607 | **0.402** | **3.62** | |
| *TpnC41C* | FBgn0013348 | **0.398** | | |
| *CG3829* | FBgn0035091 | **0.394** | | |
| *HDC20114* | | **0.370** | | |
| *Ser* | FBgn0004197 | **0.366** | **0.385** | |
| *Transpac* | FBte0001377 | **0.363** | | |
| *CG41099* | FBgn0039955 | **0.362** | | |
| *CG3788* | FBgn0034800 | **0.353** | | |
| *CG17698* | FBgn0040056 | **0.347** | | |
| *br* | FBgn0000210 | **0.327** | | |
| *slgA* | FBgn0003423 | **0.316** | **0.345** | |
| *mos* | FBgn0033773 | **0.309** | | |
| *Caps* | FBgn0053653 | **0.284** | | |
| *CR43242* | FBgn0262887 | **0.252** | | **0.097** |
| *CG40160* | FBgn0058160 | **0.239** | **0.441** | |
| *CR43242* | FBgn0262887 | **0.239** | | **0.097** |
| *CG40006* | FBgn0058006 | **0.230** | **28.55** | |
| *CG40294* | FBgn0058294 | **0.157** | | **0.398** |
| *CG30440* | FBgn0050440 | **0.132** | | |
| *Maf1* | FBgn0267861 | **0.129** | | |
| *Caps* | FBgn0053653 | **0.116** | | |
| *CR45923* | FBgn0267585 | **0.093** | **6.95** | |
| *CG17698* | FBgn0040056 | **0.093** | | |
| *CG32017* | FBgn0052017 | **0.058** | **5.13** | |
| *Cht3* | FBgn0250907 | **0.029** | | |
| *Su(var)205* | FBgn0003607 | **0.025** | | |

Transcripts that are up- or down-regulated by RNAi-mediated depletion of HP1 in Kc cells and H1 in L3 salivary glands or a homozygous null mutation of *Chd1* in L3 larvae. Fold change is calculated from Affymetrix microarray data relative to wild-type control. Transposons, repetitive and presumed heterochromatic sequences (Chr Xh, Chr 2h, Chr 3h and Chr4) are shown in red type.

**Table S4 Overlap of transcripts regulated by ISWI, H1 and CHD1.**

| SYMBOL/ TRANSCRIPT | FLYBASE ID | FOLD CHANGE | | |
|---|---|---|---|---|
| | | ISWI KD | H1 KD | *Chd1* |
| **ISWI depletion effect: *UP*** | | | | |
| *CG42675* | FBgn0261561 | **48.78** | **0.376** | |
| *Ance-5* | FBgn0035076 | **37.27** | **2.73** | |
| *CG33225* | FBgn0053225 | **27.57** | **31.76** | |
| *Acer* | FBgn0016122 | **24.68** | **3.27** | |
| *CG14787* | FBgn0027793 | **17.33** | | **2.91** |
| *CG33465* | FBgn0053465 | **16.53** | **2.80** | |
| *CG42807* | FBgn0261989 | **16.34** | | |
| *CG9008* | FBgn0028540 | **15.47** | | |
| *Cyp6d5* | FBgn0038194 | **13.46** | | **0.490** |
| *CG45057* | FBgn0266417 | **13.26** | **2.20** | |
| *GstD7* | FBgn0010043 | **12.65** | **3.98** | **3.61** |
| *CG8399* | FBgn0034067 | **12.34** | **5.09** | |
| *CG30091* | FBgn0050091 | **11.62** | | **0.187** |
| *yellow-f2* | FBgn0038105 | **11.48** | **5.78** | |
| *nvy* | FBgn0005636 | **10.70** | | |
| *Obp44a* | FBgn0033268 | **10.65** | **32.99** | |
| *zye* | FBgn0036985 | **10.55** | | |
| *ClC-a* | FBgn0051116 | **10.16** | | |
| *CG6357* | FBgn0033875 | **9.69** | **10.96** | |
| *pgant2* | FBgn0031530 | **9.31** | | |
| *CG12910* | FBgn0033502 | **9.24** | | |
| *CG15202* | FBgn0030271 | **9.00** | **0.412** | |
| *CG5397* | FBgn0031327 | **8.87** | **3.33** | |
| *CG13077* | FBgn0032810 | **8.67** | | |
| *Cht2* | FBgn0022702 | **8.62** | | |
| *NimB3* | FBgn0054003 | **8.52** | | |
| *CG31219* | FBgn0051219 | **8.14** | | |
| *CG17321* | FBgn0032719 | **7.96** | | |
| *CG5731* | FBgn0032192 | **7.79** | **2.72** | |
| *CG33120* | FBgn0053120 | **7.62** | | |
| *wdp* | FBgn0034718 | **7.45** | | |
| *Ggamma30A* | FBgn0267252 | **7.22** | **3.07** | |
| *CG32483* | FBgn0052483 | **7.18** | | **2.77** |
| *Sodh-2* | FBgn0022359 | **7.12** | | |
| *CG17681* | FBgn0032668 | **7.00** | | |
| *CG10126* | FBgn0038088 | **6.97** | | |
| *MESK4* | FBgn0043069 | **6.97** | **0.342** | **0.473** |
| *Obp49a* | FBgn0050052 | **6.88** | | |
| *CG10311* | FBgn0038420 | **6.87** | | |
| *fng* | FBgn0011591 | **6.74** | | |
| *Gli* | FBgn0001987 | **6.60** | | |
| *CG16710* | FBgn0039101 | **6.33** | | |
| *CG14990* | FBgn0035496 | **6.14** | | |
| *Mtk* | FBgn0014865 | **6.09** | | **0.438** |
| *mthl14* | FBgn0052476 | **6.02** | **15.70** | |
| *CG11638* | FBgn0040351 | **5.97** | | |

| | | | | |
|---|---|---|---|---|
| *CG30345* | FBgn0050345 | **5.74** | | |
| *CG5001* | FBgn0031322 | **5.55** | | |
| *e* | FBgn0000527 | **5.46** | **2.93** | **0.042** |
| *CG42369* | FBgn0259715 | **5.45** | **7.66** | |
| *Mdr49* | FBgn0004512 | **5.34** | **3.38** | |
| *RpS30* | FBgn0038834 | **5.33** | | |
| *CG1124* | FBgn0037290 | **5.25** | | **0.493** |
| *CG31274* | FBgn0051274 | **5.24** | **0.326** | **0.418** |
| *Kal1* | FBgn0039155 | **5.17** | **0.168** | |
| *dmGlut* | FBgn0010497 | **5.17** | **0.167** | |
| *CG17029* | FBgn0036551 | **5.17** | | |
| *Fuca* | FBgn0036169 | **5.14** | **3.88** | |
| *Tsp42Ea* | FBgn0029508 | **5.03** | | |
| *qsm* | FBgn0028622 | **4.98** | | |
| *lea* | FBgn0002543 | **4.97** | **3.29** | |
| *yellow-c* | FBgn0041713 | **4.92** | | **0.146** |
| *cad* | FBgn0000251 | **4.91** | **8.04** | |
| *CG6830* | FBgn0037934 | **4.83** | | |
| *dpr17* | FBgn0051361 | **4.81** | | |
| *CG13377* | FBgn0261446 | **4.65** | | |
| *CG11378* | FBgn0040364 | **4.62** | **0.331** | |
| *CG9691* | FBgn0030160 | **4.55** | | |
| *ChLD3* | FBgn0032598 | **4.44** | | |
| *CG17751* | FBgn0038717 | **4.43** | | |
| *CG13921* | FBgn0035267 | **4.27** | **4.49** | |
| *twz* | FBgn0034636 | **4.25** | | **0.232** |
| *CG30148* | FBgn0050148 | **4.22** | | |
| *CG7966* | FBgn0038115 | **4.19** | | |
| *CG31743* | FBgn0032618 | **4.18** | | **2.60** |
| *Snap25* | FBgn0011288 | **4.17** | **33.90** | |
| *CG9801* | FBgn0037623 | **4.13** | **0.360** | **0.423** |
| *CG14516* | FBgn0039640 | **4.05** | | |
| *Gs1* | FBgn0001142 | **3.89** | | |
| *CG10359* | FBgn0035452 | **3.89** | | |
| *Ude* | FBgn0039226 | **3.85** | | **5.03** |
| *Drs* | FBgn0010381 | **3.78** | **4.28** | **0.451** |
| *CG7607* | FBgn0036145 | **3.71** | **3.73** | |
| *CG15772* | FBgn0029799 | **3.70** | | |
| *sPLA2* | FBgn0033170 | **3.67** | | |
| *CG32313* | FBgn0052313 | **3.63** | | |
| *twit* | FBgn0032895 | **3.59** | | |
| *PCB* | FBgn0027580 | **3.58** | | |
| *Gyc-89Db* | FBgn0038436 | **3.56** | | |
| *Cyp6d2* | FBgn0034756 | **3.53** | | |
| *CG16789* | FBgn0037712 | **3.47** | | |
| *Gk* | FBgn0035266 | **3.39** | | |
| *Cby* | FBgn0067317 | **3.38** | | |
| *CG7860* | FBgn0030653 | **3.36** | | |
| *Mmp1* | FBgn0035049 | **3.34** | **11.63** | **0.264** |
| *yellow-b* | FBgn0032601 | **3.34** | | |
| *Pka-C3* | FBgn0000489 | **3.28** | | |
| *CG7781* | FBgn0032021 | **3.26** | | |

| | | | | |
|---|---|---|---|---|
| *Cyp6a17* | FBgn0015714 | **3.22** | **3.26** | |
| *CG45263* | FBgn0266801 | **3.22** | | |
| *GlcAT-S* | FBgn0032135 | **3.20** | **0.331** | |
| *CG10877* | FBgn0038804 | **3.18** | **0.157** | |
| *btn* | FBgn0014949 | **3.16** | | |
| *PlexB* | FBgn0025740 | **3.14** | | |
| *CG3505* | FBgn0038250 | **3.10** | | |
| *CG30380* | FBgn0050380 | **3.09** | | |
| *SkpB* | FBgn0026176 | **3.08** | | |
| *GLaz* | FBgn0033799 | **3.07** | **4.64** | |
| *Cyp6a23* | FBgn0033978 | **3.07** | **16.25** | **5.98** |
| *Dhc36C* | FBgn0013810 | **3.07** | | |
| *CG15343* | FBgn0030029 | **3.07** | **0.124** | **0.423** |
| *ft* | FBgn0001075 | **3.06** | | |
| *MESK2* | FBgn0043070 | **3.04** | | |
| *CG6218* | FBgn0038321 | **3.01** | | |
| *Ama* | FBgn0000071 | **3.01** | **2.27** | **0.371** |
| *Oat* | FBgn0022774 | **3.00** | **0.077** | **0.306** |
| *fax* | FBgn0014163 | **2.98** | | |
| *CG34288* | FBgn0085317 | **2.96** | | |
| *baz* | FBgn0000163 | **2.96** | **0.369** | |
| *CG4630* | FBgn0033809 | **2.95** | **0.301** | |
| *CG5783* | FBgn0032670 | **2.95** | **0.388** | |
| *LamC* | FBgn0010397 | **2.95** | | **2.08** |
| *CG3625* | FBgn0031245 | **2.92** | | |
| *Cyp6a22* | FBgn0013773 | **2.92** | **7.50** | |
| *PPO1* | FBgn0261362 | **2.92** | **6.89** | |
| *CG12262* | FBgn0035811 | **2.91** | | |
| *miple2* | FBgn0029002 | **2.87** | | |
| *LpR1* | FBgn0066101 | **2.87** | | |
| *Jheh1* | FBgn0010053 | **2.85** | | |
| *slgA* | FBgn0003423 | **2.85** | **0.345** | |
| *Pepck* | FBgn0003067 | **2.84** | | **2.30** |
| *Cyp4d20* | FBgn0035344 | **2.81** | | |
| *CG5577* | FBgn0036759 | **2.81** | **0.359** | |
| *CG34409* | FBgn0085438 | **2.80** | | |
| *brv3* | FBgn0040333 | **2.80** | | |
| *AdamTS-A* | FBgn0038341 | **2.79** | **0.207** | |
| *rgn* | FBgn0261258 | **2.78** | **11.07** | |
| *Dat* | FBgn0019643 | **2.74** | | |
| *CG8547* | FBgn0033919 | **2.72** | | |
| *Gbp* | FBgn0034199 | **2.72** | | **0.429** |
| *CG10232* | FBgn0039108 | **2.68** | **4.13** | |
| *CG14036* | FBgn0031677 | **2.68** | | |
| *HDC15448* | | **2.66** | | |
| *corolla* | FBgn0267967 | **2.66** | | |
| *Ror* | FBgn0010407 | **2.66** | | |
| *pdgy* | FBgn0027601 | **2.66** | | |
| *fra* | FBgn0011592 | **2.65** | | |
| *CG1969* | FBgn0039690 | **2.65** | **0.218** | |
| *S.C3R003414* | | **2.64** | | |
| *wus* | FBgn0030805 | **2.62** | | |

| | | | | |
|---|---|---|---|---|
| *CG8353* | FBgn0032002 | **2.62** | | |
| *CG10764* | FBgn0034221 | **2.61** | | **0.390** |
| *CG30503* | FBgn0050503 | **2.60** | | **3.14** |
| *CG11983* | FBgn0037654 | **2.60** | | |
| *CG11897* | FBgn0039644 | **2.59** | **5.52** | **2.14** |
| *Mmp1* | FBgn0035049 | **2.57** | **9.53** | **0.264** |
| *Cyp310a1* | FBgn0032693 | **2.57** | **6.31** | |
| *Cyp4d2* | FBgn0011576 | **2.57** | | |
| *whd* | FBgn0261862 | **2.56** | | |
| *CG8066* | FBgn0038243 | **2.55** | **5.94** | |
| *betaTub60D* | FBgn0003888 | **2.55** | **3.13** | |
| *CG32436* | FBgn0052436 | **2.53** | | |
| *Cyp6a20* | FBgn0033980 | **2.52** | | |
| *Cyp12a4* | FBgn0038681 | **2.52** | **3.42** | |
| *Src64B* | FBgn0262733 | **2.50** | | |
| *c(2)M* | FBgn0028525 | **2.50** | **2.93** | |
| *Npc2b* | FBgn0038198 | **2.49** | | |
| *CG42390* | FBgn0259736 | **2.48** | **0.464** | **2.51** |
| *mbc* | FBgn0015513 | **2.47** | | |
| *CG31751* | FBgn0086909 | **2.47** | **0.375** | |
| *Adk3* | FBgn0042094 | **2.47** | | |
| *Spn27A* | FBgn0028990 | **2.47** | | |
| *dpp* | FBgn0000490 | **2.46** | | |
| *Mmp1* | FBgn0035049 | **2.46** | **15.55** | **0.264** |
| *CG17549* | FBgn0032774 | **2.44** | | |
| *CG34331* | FBgn0085360 | **2.44** | | |
| *Hydr1* | FBgn0033382 | **2.43** | | |
| *CG32280* | FBgn0052280 | **2.43** | | |
| *Tequila* | FBgn0023479 | **2.43** | | |
| *Atpalpha* | FBgn0002921 | **2.42** | | |
| *nrv3* | FBgn0032946 | **2.42** | **8.16** | |
| *Hsp27* | FBgn0001226 | **2.41** | | **0.457** |
| *corn* | FBgn0259173 | **2.41** | **12.44** | |
| *CG17350* | FBgn0032772 | **2.40** | | |
| *CG15544* | FBgn0039804 | **2.40** | | **0.406** |
| *CG8501* | FBgn0033724 | **2.40** | | |
| *CG12206* | FBgn0029662 | **2.40** | | |
| *GlyP* | FBgn0004507 | **2.39** | | |
| *Tsp42Ed* | FBgn0029507 | **2.39** | | |
| *NtR* | FBgn0029147 | **2.39** | **2.51** | |
| *CG7142* | FBgn0038595 | **2.38** | **5.56** | |
| *CG15093* | FBgn0034390 | **2.37** | **2.02** | |
| *CDase* | FBgn0039774 | **2.36** | **2.07** | |
| *sano* | FBgn0034408 | **2.35** | **4.83** | |
| *EF-G2* | FBgn0051159 | **2.35** | | |
| *Dmtn* | FBgn0037443 | **2.34** | | |
| *CG1969* | FBgn0039690 | **2.34** | **0.189** | |
| *CG13907* | FBgn0035173 | **2.33** | | |
| *sdk* | FBgn0021764 | **2.33** | | |
| *CG40115* | FBgn0058115 | **2.33** | **10.26** | |
| *CG10824* | FBgn0038865 | **2.30** | **2.24** | |
| *CG14984* | FBgn0035480 | **2.30** | **2.07** | |

| | | | | |
|---|---|---|---|---|
| *Jabba* | FBgn0259682 | **2.30** | | |
| *Cyp6a13* | FBgn0033304 | **2.30** | **5.64** | |
| *CG17919* | FBgn0037433 | **2.29** | **9.35** | |
| *Ance* | FBgn0012037 | **2.28** | | |
| *CG18508* | FBgn0028746 | **2.28** | | |
| *CG33111* | FBgn0053111 | **2.28** | | |
| *Itgbetanu* | FBgn0010395 | **2.27** | | |
| *CG43658* | FBgn0263706 | **2.27** | | |
| *CG16947* | FBgn0031816 | **2.27** | **0.285** | |
| *Cyp12d1-d* | FBgn0053503 | **2.26** | | |
| *CG33181* | FBgn0053181 | **2.26** | **7.63** | |
| *CG13252* | FBgn0037016 | **2.25** | **0.440** | |
| *Asph* | FBgn0034075 | **2.25** | **0.427** | **0.308** |
| *dnd* | FBgn0038916 | **2.25** | | |
| *Mctp* | FBgn0034389 | **2.25** | **0.300** | **2.95** |
| *CG15914* | FBgn0030700 | **2.24** | | |
| *dlp* | FBgn0041604 | **2.24** | | |
| *bgcn* | FBgn0004581 | **2.23** | | |
| *Apoltp* | FBgn0032136 | **2.22** | **2.89** | **5.70** |
| *CG40115* | FBgn0058115 | **2.22** | **7.20** | |
| *CG3831* | FBgn0034804 | **2.22** | | **0.480** |
| *CG5853* | FBgn0032167 | **2.20** | | |
| *CG12746* | FBgn0037341 | **2.20** | | |
| *springer* | FBte0000333 | **2.19** | | |
| *SD02481* | FBcl0277517 | **2.18** | | |
| *fat-spondin* | FBgn0026721 | **2.18** | | |
| *Fem-1* | FBgn0034542 | **2.17** | | |
| *Oatp30B* | FBgn0032123 | **2.17** | | |
| *mthl5* | FBgn0037960 | **2.17** | | **0.476** |
| *SAK* | FBgn0026371 | **2.16** | | |
| *Vha68-1* | FBgn0265262 | **2.15** | **2.42** | |
| *norpA* | FBgn0262738 | **2.15** | | |
| *Ect3* | FBgn0260746 | **2.15** | **2.21** | |
| *CG3038* | FBgn0040373 | **2.14** | | |
| *CG32032* | FBgn0043806 | **2.14** | | |
| *CG9547* | FBgn0031824 | **2.13** | | |
| *CG12643* | FBgn0040942 | **2.12** | | |
| *CG31974* | FBgn0051974 | **2.12** | **4.74** | **2.23** |
| *CAH1* | FBgn0027844 | **2.11** | **2.25** | **0.493** |
| *mtg* | FBgn0260386 | **2.11** | **2.25** | **2.83** |
| *CG30441* | FBgn0050441 | **2.11** | | |
| *TM4SF* | FBgn0020372 | **2.11** | | |
| *Cpr49Ag* | FBgn0033730 | **2.10** | | |
| *ImpE3* | FBgn0001255 | **2.10** | | **0.171** |
| *CG10516* | FBgn0036549 | **2.10** | | **0.293** |
| *zuc* | FBgn0261266 | **2.09** | | |
| *Tret1-1* | FBgn0050035 | **2.07** | | |
| *Muc68Ca* | FBgn0036181 | **2.07** | | **7.36** |
| *CG17754* | FBgn0030114 | **2.07** | | **0.490** |
| *CG45186* | FBgn0266696 | **2.06** | **0.433** | |
| *Atet* | FBgn0020762 | **2.06** | | **0.470** |
| *CG5080* | FBgn0031313 | **2.06** | | |

| | | | | |
|---|---|---|---|---|
| *cyc* | FBgn0023094 | **2.05** | | |
| *CG33947* | FBgn0083068 | **2.05** | | |
| *SLC5A11* | FBgn0031998 | **2.05** | | |
| *CG14523* | FBgn0039612 | **2.04** | | |
| *CG42684* | FBgn0261570 | **2.04** | | |
| *CG17265* | FBgn0031488 | **2.03** | | |
| *CG42327* | FBgn0259227 | **2.03** | | |
| *CG5096* | FBgn0032235 | **2.03** | **3.96** | |
| *CG9914* | FBgn0030737 | **2.03** | **4.84** | |
| *Dip3* | FBgn0040465 | **2.03** | | |
| *mthl10* | FBgn0035132 | **2.03** | | |
| *Dark* | FBgn0263864 | **2.02** | **0.249** | **0.418** |
| *Apf* | FBgn0051713 | **2.02** | | |
| *CG6330* | FBgn0039464 | **2.01** | | |
| *ItgalphaPS4* | FBgn0034005 | **2.01** | **3.91** | |
| *FER* | FBgn0000723 | **2.01** | | |
| *CG41128* | FBgn0069923 | **2.00** | **0.338** | |
| **ISWI depletion effect: *DOWN*** | | | | |
| *CG40191* | FBgn0058191 | **0.498** | | |
| *laccase2* | FBgn0259247 | **0.498** | | |
| *CG7322* | FBgn0030968 | **0.495** | | |
| *ppk29* | FBgn0034965 | **0.495** | | |
| *CG31619* | FBgn0051619 | **0.495** | **2.82** | |
| *CG12391* | FBgn0033581 | **0.494** | | |
| *Nap1* | FBgn0015268 | **0.494** | | |
| *Gpo-1* | FBgn0022160 | **0.493** | **3.37** | **3.32** |
| *Doc3* | FBgn0035954 | **0.490** | | |
| *HDC14725* | | **0.488** | | |
| *CG10433* | FBgn0034638 | **0.487** | **3.25** | **3.05** |
| *CG8765* | FBgn0036900 | **0.487** | | |
| *HDC16707* | | **0.485** | | |
| *cactin* | FBgn0031114 | **0.484** | **2.77** | |
| *Marcal1* | FBgn0031655 | **0.484** | | |
| *lute* | FBgn0262871 | **0.484** | **0.286** | |
| *CG32625* | FBgn0052625 | **0.482** | **39.17** | |
| *ham* | FBgn0045852 | **0.480** | | |
| *CG7900* | FBgn0037548 | **0.476** | **2.96** | **2.71** |
| *CG7120* | FBgn0035888 | **0.475** | | |
| *Gs2* | FBgn0001145 | **0.474** | **3.09** | |
| *Cdep* | FBgn0265082 | **0.472** | **0.481** | |
| *mgl* | FBgn0261260 | **0.471** | | |
| *Arpc3B* | FBgn0065032 | **0.470** | **30.56** | |
| *Sp7* | FBgn0037515 | **0.466** | | **0.401** |
| *CG31997* | FBgn0051997 | **0.465** | **3.22** | |
| *Aats-val* | FBgn0027079 | **0.465** | | |
| *Eip55E* | FBgn0000566 | **0.463** | | |
| *Aats-asn* | FBgn0086443 | **0.456** | | |
| *CG40131* | FBgn0058131 | **0.454** | | |
| *CG34228* | FBgn0085257 | **0.454** | | |
| *CG18747* | FBgn0042104 | **0.453** | | |
| *blanks* | FBgn0035608 | **0.453** | **98.58** | **0.321** |
| *CG44251* | FBgn0265186 | **0.450** | **2.21** | |

| | | | | |
|---|---|---|---|---|
| *PGRP-SA* | FBgn0030310 | **0.449** | **2.20** | |
| *squ* | FBgn0267347 | **0.448** | | |
| *CG12288* | FBgn0032620 | **0.447** | **5.29** | |
| *CG42724* | FBgn0261641 | **0.443** | | |
| *Taf2* | FBgn0011836 | **0.443** | | |
| *Nop60B* | FBgn0259937 | **0.443** | **3.70** | |
| *gce* | FBgn0261703 | **0.443** | | |
| *CG1503* | FBgn0031157 | **0.443** | | |
| *CG10089* | FBgn0036369 | **0.436** | **13.85** | |
| *Ssk* | FBgn0036945 | **0.431** | | |
| *Ac3* | FBgn0023416 | **0.430** | | |
| *r-l* | FBgn0003257 | **0.430** | | |
| *CG32088* | FBgn0052088 | **0.430** | | |
| *CG14798* | FBgn0029588 | **0.428** | **3.41** | |
| *sgll* | FBgn0051472 | **0.424** | | |
| *CG32795* | FBgn0040384 | **0.422** | **0.468** | |
| *png* | FBgn0000826 | **0.420** | | |
| *CG1550* | FBgn0033225 | **0.419** | | |
| *CG30339* | FBgn0050339 | **0.417** | | |
| *CG18643* | FBgn0037898 | **0.415** | | |
| *CG7458* | FBgn0037144 | **0.413** | | **2.06** |
| *CG2709* | FBgn0024977 | **0.411** | | |
| *Aats-trp* | FBgn0010803 | **0.411** | **0.171** | |
| *CG9902* | FBgn0030757 | **0.411** | | |
| *CG6912* | FBgn0038290 | **0.408** | | |
| *Gip* | FBgn0011770 | **0.407** | | |
| *CG30340* | FBgn0050340 | **0.406** | | |
| *sage* | FBgn0037672 | **0.404** | **0.183** | |
| *HDC17231* | | **0.399** | | |
| *CG32017* | FBgn0052017 | **0.396** | **5.13** | |
| *Cyt-b5-r* | FBgn0000406 | **0.393** | **10.17** | **2.57** |
| *Mal-B2* | FBgn0032382 | **0.391** | | |
| *CG8613* | FBgn0033924 | **0.390** | | |
| *f-cup* | FBgn0028487 | **0.385** | | |
| *CG31769* | FBgn0051769 | **0.380** | **2.49** | **2.33** |
| *trk* | FBgn0003751 | **0.380** | **4.61** | |
| *CG32196* | FBgn0052196 | **0.378** | | |
| *CG1674* | FBgn0039897 | **0.378** | | |
| *GstO1* | FBgn0035907 | **0.377** | **6.65** | |
| *CG4793* | FBgn0028514 | **0.374** | **15.37** | |
| *alpha-Est8* | FBgn0015576 | **0.374** | | **2.83** |
| *Bx* | FBgn0265598 | **0.373** | **2.05** | |
| *CG14545* | FBgn0040602 | **0.372** | **157.17** | |
| *CG14615* | FBgn0031184 | **0.370** | **2.16** | |
| *CG4587* | FBgn0028863 | **0.370** | | |
| *CG15100* | FBgn0034401 | **0.362** | | |
| *nonA-l* | FBgn0015520 | **0.353** | | |
| *CG30010* | FBgn0050010 | **0.352** | | |
| *CG18586* | FBgn0035642 | **0.347** | | |
| *CG1677* | FBgn0029941 | **0.346** | | |
| *CT32987* | | **0.346** | | |
| *CG9305* | FBgn0032512 | **0.342** | | |

| | | | | |
|---|---|---|---|---|
| *CG10063* | FBgn0035727 | **0.335** | | |
| *CG5568* | FBgn0035641 | **0.334** | | |
| *fend* | FBgn0030090 | **0.324** | **3.52** | |
| *CG15820* | FBgn0035312 | **0.322** | | |
| *Vago* | FBgn0030262 | **0.322** | **2.46** | |
| *Sox102F* | FBgn0039938 | **0.321** | | |
| *CG9837* | FBgn0037635 | **0.320** | | **0.441** |
| *aub* | FBgn0000146 | **0.319** | | |
| *ham* | FBgn0045852 | **0.301** | | |
| *CG16888* | FBgn0032533 | **0.301** | | |
| *blot* | FBgn0027660 | **0.298** | **0.273** | |
| *TfIIFalpha* | FBgn0010282 | **0.292** | | |
| *CG31619* | FBgn0051619 | **0.291** | | |
| *CG5285* | FBgn0038490 | **0.291** | **2.33** | |
| *betaTub97EF* | FBgn0003890 | **0.284** | | |
| *CG17928* | FBgn0032603 | **0.280** | **2.79** | |
| *stg1* | FBgn0064123 | **0.270** | | |
| *CG34330* | FBgn0085359 | **0.260** | **4.33** | |
| *CG32582* | FBgn0052582 | **0.252** | | |
| *AGO3* | FBgn0250816 | **0.250** | **11.47** | |
| *GstE13* | FBgn0033381 | **0.246** | | |
| *CG8336* | FBgn0036020 | **0.244** | | |
| *CG43103* | FBgn0262563 | **0.239** | **2.59** | |
| *veil* | FBgn0034225 | **0.232** | | |
| *CG5144* | FBgn0035957 | **0.223** | | |
| *CG3457* | FBgn0024984 | **0.220** | | |
| *piwi* | FBgn0004872 | **0.209** | | |
| *CG10581* | FBgn0037046 | **0.206** | **5.98** | |
| *CG4872* | FBgn0030799 | **0.183** | **10.25** | |
| *Nxf3* | FBgn0263232 | **0.183** | | |
| *Ugt36Bc* | FBgn0040260 | **0.181** | | |
| *CG4210* | FBgn0038302 | **0.169** | **2.30** | |
| *Nrg* | FBgn0264975 | **0.144** | | |
| *CG13602* | FBgn0264740 | **0.130** | | |
| *Iswi* | FBgn0011604 | **0.126** | | |
| *Nrg* | FBgn0264975 | **0.113** | | |
| *eIF4E-6* | FBgn0039622 | **0.112** | | |
| *fu12* | FBgn0026718 | **0.101** | **3.56** | |
| *CG5367* | FBgn0032228 | **0.053** | | |

Transcripts that are up- or down-regulated by RNAi-mediated depletion of ISWI in SL2 cells and H1 in L3 salivary glands or a homozygous null mutation of *Chd1* in L3 larvae. Fold change is calculated from Affymetrix microarray data relative to wild-type control.

**SUPPORTING REFERENCES**


Aoki, T., Sarkeshik, A., Yates, J., and P. Schedl, 2012 Elba, a novel developmentally regulated chromatin boundary factor is a hetero-tripartite DNA binding complex. *eLife* **1**: e00171.

Arancio, W., Onorati, M.C., Burgio, G., Collesano, M., A.M. Ingrassia *et al*., 2010 The nucleosome remodeling factor ISWI functionally interacts with an evolutionarily conserved network of cellular factors. *Genetics* **185**: 129-140.

Ayyar, S., Jiang, J., Collu, A., White-Cooper, H., and R.A. White, 2003 *Drosophila* TGIF is essential for developmentally regulated transcription in spermatogenesis. *Development* **130**: 2841-2852.

Baffet, A.D., Benoit, B., Januschke, J., Audo, J., V. Gourhand *et al*., 2012 *Drosophila* tubulin-binding cofactor B is required for microtubule network formation and for cell polarity. *Mol Biol Cell* **23**: 3591-3601.

Bateman, J., Shu, H., and D. Van Vactor, 2000. The guanine nucleotide exchange factor trio mediates axonal development in the *Drosophila* embryo. *Neuron* **26**: 93-106.

Berkey, C.D., Blow, N., and P.I. Watnick 2009 Genetic analysis of *Drosophila melanogaster* susceptibility to intestinal *Vibrio cholerae* infection. *Cell Microbiol* **11**: 461-474.

Bhat, K.M., and P. Schedl, 1997 Requirement for *engrailed* and *invected* genes reveals novel regulatory interactions between *engrailed*/*invected*, *patched*, *gooseberry* and *wingless* during *Drosophila* neurogenesis. *Development* **124**: 1675-1688.

Blanke, S., and H. Jackle, 2006 Novel guanine nucleotide exchange factor GEFmeso of *Drosophila melanogaster* interacts with Ral and Rho GTPase Cdc42. *FASEB J* **20**: 683-691.

Bobak, D.A., Nightingale, M.S., Murtagh, J.J., Price, S.R., J. Moss *et al*., 1989 Molecular cloning, characterization, and expression of human ADP-ribosylation factors: two guanine nucleotide-dependent activators of cholera toxin. *Proc Natl Acad Sci U S A* **86**: 6101-6105.

Chabu, C., and C.Q. Doe, 2008 Dap160/intersectin binds and activates aPKC to regulate cell polarity and cell cycle progression. *Development* **135**: 2739-2746.

Chang, H.C., Solomon, N.M., Wassarman, D.A., Karim, F.D., M. Therrien *et al*., 1995 *phyllopod* functions in the fate determination of a subset of photoreceptors in *Drosophila*. *Cell* **80**: 463-472.

Clouse, K.N., Ferguson, S.B., and T. Schupbach, 2008 Squid, Cup, and PABP55B function together to regulate gurken translation in *Drosophila*. *Dev Biol* **313**: 713-724.

Ding, Z.Y., Wang, Y.H., Luo, Z.K., Lee, H.F., J. Hwang *et al*., 2011 Glial cell adhesive molecule unzipped mediates axon guidance in *Drosophila*. *Dev Dyn* **240**: 122-134.

Dubnau, J., Chiang, A.S., Grady, L., Barditch, J., S. Gossweiler *et al*., 2003 The *staufen/pumilio* pathway is involved in *Drosophila* long-term memory. *Curr Biol* **13**: 286-296.

Dyer, N., Rebollo, E., Dominguez, P., Elkhatib, N., P. Chavrier P, *et al*., 2007 Spermatocyte cytokinesis requires rapid membrane addition mediated by ARF6 on central spindle recycling endosomes. *Development* **134**: 4437-4447.

Feng, Z., Liu, H., Lang, J., Li, Y., M. Shu *et al*., 2009 SK66-his, a novel glycine-rich peptide derived from *Drosophila* with antibacterial activity. *Biosci Biotech Biochem* **73**: 769-771.

Giniger, E., Tietje, K., Jan, L.Y., and Y.N. Jan, 1994 *lola* encodes a putative transcription factor required for axon growth and guidance in *Drosophila*. *Development* **120**: 1385-1398.

Goldstein, L.S., and S. Gunawardena, 2000 Flying through the *Drosophila* cytoskeletal genome. *J Cell Biol* **150**: F63-68.

Grimaud, C., Bantignies, F., Pal-Bhadra, M., Ghana, P., U. Bhadra *et al*., 2006 RNAi components are required for nuclear clustering of Polycomb group response elements. *Cell* **124**: 957-971.

Guntermann, S., Primrose, D.A., and E. Foley, 2009 Dnr1-dependent regulation of the *Drosophila* immune deficiency signaling pathway. *Dev Comp Immunol* **33**: 127-134.

Hasegawa, E., Kaido, M., Takayama, R., and M. Sato, 2013 Brain-specific-homeobox is required for the specification of neuronal types in the *Drosophila* optic lobe. *Dev Biol* **377**: 90-99.

Heidmann, D., Horn, S., Heidmann, S., Schleiffer, A., K. Nasmyth *et al*., 2004 The *Drosophila* meiotic kleisin C(2)M functions before the meiotic divisions. *Chromosoma* **113**: 177-187.

Hughes, J.R., Meireles, A.M., Fisher, K.H., Garcia, A., P.R. Antrobus *et al*., 2008 A microtubule interactome: complexes with roles in cell cycle and mitosis. *PLoS Biol* **6**: e98.

Hyman, C.A., Bartholin, L., Newfeld, S.J., and D. Wotton, 2003 *Drosophila* TGIF proteins are transcriptional activators. *Mol Cell Biol* **23**: 9262-9274.

Issigonis, M., Tulina, N., de Cuevas, M., Brawley, C., L. Sandler *et al*., 2009 JAK-STAT signal inhibition regulates competition in the *Drosophila* testis stem cell niche. *Science* **326**: 153-156.

Jafari, S., Alkhori, L., Schleiffer, A., Brochtrup, A., T. Hummel *et al*., 2012 Combinatorial activation and repression by seven transcription factors specify *Drosophila* odorant receptor expression. *PLoS Biol* **10**: e1001280.

James, R.E., and H.T. Broihier, 2011 Crimpy inhibits the BMP homolog Gbb in motoneurons to enable proper growth control at the *Drosophila* neuromuscular junction. *Development* **138**: 3273-3286.

Jin, L.H., Shim, J., Yoon, J.S., Kim, B., J. Kim *et al*., 2008 Identification and functional analysis of antifungal immune response genes in *Drosophila*. *PLoS Pathogens* **4**: e1000168.

Johnstone, O., and P. Lasko, 2001 Translational regulation and RNA localization in *Drosophila* oocytes and embryos. *Ann Rev Genet* **35**: 365-406.
Kirilly, D., Spana, E.P., Perrimon, N., Padgett, R.W., and T. Xie, 2005 BMP signaling is required for controlling somatic stem cell self-renewal in the *Drosophila* ovary. *Dev Cell* **9**: 651-662.
Kleino, A., Valanne, S., Ulvila, J., Kallio, J., H. Myllymaki *et al*., 2005 Inhibitor of apoptosis 2 and TAK1-binding protein are components of the *Drosophila* Imd pathway. *EMBO J* **24**: 3423-3434.
Koh, T.W., Verstreken, P., and H.J. Bellen, 2004 Dap160/intersectin acts as a stabilizing scaffold required for synaptic development and vesicle endocytosis. *Neuron* **43**: 193-205.
Konev, A.Y., Tribus, M., Park, S.Y., Podhraski, V., C.Y. Lim *et al*., 2007 CHD1 motor protein is required for deposition of histone variant H3.3 into chromatin in vivo. *Science* **317**: 1087-1090.
Kraut, R., and K. Zinn, 2004 Roundabout 2 regulates migration of sensory neurons by signaling in trans. *Curr Biol* **14**: 1319-1329.
Krueger, N.X., Reddy, R.S., Johnson, K., Bateman, J., N. Kaufmann *et al*., 2003 Functions of the ectodomain and cytoplasmic tyrosine phosphatase domains of receptor protein tyrosine phosphatase Dlar in vivo. *Mol Cell Biol* **23**: 6909-6921.
Krueger, N.X., Van Vactor, D., Wan, H.I., Gelbart, W.M., G.S. Goodman *et al*., 1996 The transmembrane tyrosine phosphatase DLAR controls motor axon guidance in *Drosophila*. *Cell* **84**: 611-622.
Kusch, T., Florens, L., Macdonald, W.H., Swanson, S.K., R.L. Glaser *et al*., 2004 Acetylation by Tip60 is required for selective histone variant exchange at DNA lesions. *Science* **306**: 2084-2087.
Laflamme, C., Assaker, G., Ramel, D., Dorn, J.F., D. She *et al*., 2012 Evi5 promotes collective cell migration through its Rab-GAP activity. *J Cell Biol* **198**: 57-67.
Lee, S.Y., Lee, S.Y., and Y. Choi, 1997 TRAF-interacting protein (TRIP): a novel component of the tumor necrosis factor receptor (TNFR)- and CD30-TRAF signaling complexes that inhibits TRAF2-mediated NF-kappaB activation. *J Exp Med* **185**: 1275-1285.
Lloyd, T.E., Verstreken, P., Ostrin, E.J., Phillippi, A., O. Lichtarge *et al*., 2000 A genome-wide search for synaptic vesicle cycle proteins in *Drosophila*. *Neuron* **26**: 45-50.
Manser, E., Loo, T.H., Koh, C.G., Zhao, Z.S., X.Q. Chen *et al*., 1998 PAK kinases are directly coupled to the PIX family of nucleotide exchange factors. *Mol Cell* **1**: 183-192.
McDaniel, I.E., Lee, J.M., Berger, M.S., Hanagami, C.K., and J.A. Armstrong, 2008 Investigations of CHD1 function in transcription and development of *Drosophila melanogaster*. *Genetics* **178**: 583-587.
Merkle, J.A., Rickmyre, J.L., Garg, A., Loggins, E.B., J.N. Jodoin *et al*., 2009 *no poles* encodes a predicted E3 ubiquitin ligase required for early embryonic development of *Drosophila*. *Development* **136**: 449-459.
Morante, J., Vallejo, D.M., Desplan, C., and M. Dominguez, 2013 Conserved miR-8/miR-200 defines a glial niche that controls neuroepithelial expansion and neuroblast transition. *Dev Cell* **27**: 174-187.
Nagaraj, R., and U. Banerjee, 2009 Regulation of Notch and Wingless signalling by *phyllopod*, a transcriptional target of the EGFR pathway. *EMBO J* **28**: 337-346.
Neumuller, R.A., Richter, C., Fischer, A., Novatchkova, M., K.G. Neumuller *et al*., 2011 Genome-wide analysis of self-renewal in *Drosophila* neural stem cells by transgenic RNAi. *Cell Stem Cell* **8**: 580-593.
O'Neill, R.S., and D.V. Clark, 2013 The *Drosophila* melanogaster septin gene Sep2 has a redundant function with the retrogene Sep5 in imaginal cell proliferation but is essential for oogenesis. *Genome* **56**: 753-758.
Parnas, D., Haghighi, A.P., Fetter, R.D., Kim, S.W., and C.S. Goodman, 2001 Regulation of postsynaptic structure and protein localization by the Rho-type guanine nucleotide exchange factor dPix. *Neuron* **32**: 415-424.
Parrish, J.Z., Kim, M.D., Jan, L.Y., and Y.N. Jan, 2006 Genome-wide analyses identify transcription factors required for proper morphogenesis of *Drosophila* sensory neuron dendrites. *Genes Dev* **20**: 820-835.
Pertceva, J.A., Dorogova, N.V., Bolobolova, E.U., Nerusheva, O.O., S.A. Fedorova *et al*., 2010 The role of *Drosophila* hyperplastic discs gene in spermatogenesis. *Cell Biol Int* **34**: 991-996.
Rahn, T., Leippe, M., Roeder, T., and H. Fedders, 2013 EGFR signaling in the brain is necessary for olfactory learning in *Drosophila* larvae. *Learm Mem* **20**: 194-200.
Simmonds, A.J., Brook, W.J., Cohen, S.M., and J.B. Bell, 1995 Distinguishable functions for *engrailed* and *invected* in anterior-posterior patterning in the *Drosophila* wing. *Nature* **376**: 424-427.
Simpson, J.H., Kidd, T., Bland, K.S., and C.S. Goodman, 2000 Short-range and long-range guidance by slit and its Robo receptors. Robo and Robo2 play distinct roles in midline guidance. *Neuron* **28**: 753-766.
Sinclair, D.A., Clegg, N.J., Antonchuk, J., Milne, T.A., K. Stankunas *et al*., 1998 *Enhancer of Polycomb* is a suppressor of position-effect variegation in *Drosophila melanogaster*. *Genetics* **148**: 211-220.
Singh, S.R., Zheng, Z., Wang, H., Oh, S.W., X. Chen *et al*., 2010 Competitiveness for the niche and mutual dependence of the germline and somatic stem cells in the *Drosophila* testis are regulated by the JAK/STAT signaling. *J Cell Physiol* **223**: 500-510.
Stankunas, K., Berger, J., Ruse, C., Sinclair, D.A., F. Randazzo *et al*., 1998 The *Enhancer of Polycomb* gene of *Drosophila* encodes a chromatin protein conserved in yeast and mammals. *Development* **125**: 4055-4066.

Tea, J.S., and L. Luo, 2011 The chromatin remodeling factor Bap55 functions through the TIP60 complex to regulate olfactory projection neuron dendrite targeting. *Neur Dev* **6**: 5.

Terman, J.R., and A.L. Kolodkin, 2004 Nervy links protein kinase a to plexin-mediated semaphorin repulsion. *Science* **303**: 1204-1207.

Tsuzuki, S., Ochiai, M., Matsumoto, H., Kurata, S., A. Ohnishi *et al*., 2012 *Drosophila* growth-blocking peptide-like factor mediates acute immune reactions during infectious and non-infectious stress. *Sci Rep* **2**: 210.

Wallace, H.A., Merkle, J.A., Yu, M.C., Berg, T.G., E. Lee *et al*., 2014 TRIP/NOPO E3 ubiquitin ligase promotes ubiquitylation of DNA polymerase eta. *Development* **141**: 1332-1341.

Wang, X., Shaw, W.R., Tsang, H.T., Reid, E., and C.J. O'Kane, 2007 *Drosophila* spichthyin inhibits BMP signaling and regulates synaptic growth and axonal microtubules. *Nat Neurosci* **10**: 177-185.

Williams, R.W., and G.M. Rubin, 2002 ARGONAUTE1 is required for efficient RNA interference in *Drosophila* embryos. *Proc Natl Acad Sci U S A* **99**: 6889-6894.

Xu, N., Emelyanov, A.V., Fyodorov, D.V., and A.I. Skoultchi, 2014 *Drosophila* linker histone H1 coordinates STAT-dependent organization of heterochromatin and suppresses tumorigenesis caused by hyperactive JAK-STAT signaling. *Epigenetics Chromatin* **7**: 16.

Yamaguchi, S., Katagiri, S., Sekimizu, K., Natori, S., and K.J. Homma, 2005 Involvement of EDTP, an egg-derived tyrosine phosphatase, in the early development of *Drosophila melanogaster*. *J Biochem* **138**: 721-728.

Yamamoto, A., Zwarts, L., Callaerts, P., Norga, K., T.F. Mackay *et al*., 2008 Neurogenetic networks for startle-induced locomotion in *Drosophila melanogaster*. *Proc Natl Acad Sci U S A* **105**: 12393-12398.

Yang, H., Liu, C., Jamsen, J., Wu, Z., Y. Wang *et al*., 2012 The DNase domain-containing protein TATDN1 plays an important role in chromosomal segregation and cell cycle progression during zebrafish eye development. *Cell Cycle* **11**: 4626-4632.

Yang, L., Chen, D., Duan, R., Xia, L., J. Wang *et al*., 2007 Argonaute 1 regulates the fate of germline stem cells in *Drosophila*. *Development* **134**: 4265-4272.

Zheng, L., and R.W. Carthew, 2008 Lola regulates cell fate by antagonizing Notch induction in the *Drosophila* eye. *Mech Dev* **125**: 18-29.