

SUPPLEMENTARY MATERIAL

corresponding to:

**Epigenetic regulation and transcriptional memory in
development; selection facilitating prudence**

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TABLE S1

PCG AND TRXG PROTEINS IN *DROSOPHILA* AND THEIR MAMMALIAN HOMOLOGS

Complexes	Components		Molecular Function	Mutant phenotype in <i>Drosophila</i>	References
	<i>Drosophila</i> homologue	Mammalian homologue			
PcG Proteins					
PRC1	dRing1 (Sce)	RING1A/1B	E3 ubiquitin ligase	Embryonic/ larval lethality, nervous system defects, homeotic transformation	McKeon <i>et al.</i> , 1994;
	Psc	PCGF1-6	Binds DNA and helps Chromatin compaction	Early developmental defects, recessive embryonic lethality, homeotic defects	Martin and Adler, 1993; Morimoto <i>et al.</i> , 2016
	Pc	CBX2, CBX4, CBX6-8	Binds with H3K27me3	Embryonic and pupal lethality, mitotic defects, homeotic phenotype	Busturia <i>et al.</i> , 1997; O'Dor <i>et al.</i> , 2006; Rincon-Arango <i>et al.</i> , 2012
	Ph	PHC1-3	Oligomerize and helps in protein-protein interaction	Embryonic and pupal lethality, mitotic defects, oogenesis defects, developmental delay, homeotic phenotype	Narbonne <i>et al.</i> , 2004; Stern <i>et al.</i> , 2012
PRC2	E(z)	EZH1, EZH2	H3K27 Histone methyl transferase activity	Lethality, mitotic defects, female sterility, homeotic defects	Bello <i>et al.</i> , 2007; Phillips and Shearn, 1990;
	Su(z)12	SUZ12	Enhances activity of E(z)	Defects in oogenesis, mitotic cell cycle defects, lethality, defects in nervous system development, homeotic transformations	Bello <i>et al.</i> , 2007; Parrish <i>et al.</i> , 2007; Kehle <i>et al.</i> , 1998;
	Esc	EED164	Binds H3K27me3	Embryonic lethality, homeotic defects,	Choi <i>et al.</i> , 2000; Klymenko and Muller, 2004
	p55 (Nurf55, Caf1)	RBBP4/7	Interacts with Su(z)12 and histones	Lethality at larval/pupal stages, Mitotic defects	Wen <i>et al.</i> , 2012
Pho(RC)	Pho	YY1	Sequence specific DNA binding	Embryonic/larval lethality, neuroanatomical defects, female sterility	Girton and Jeon, 1994; Iyer <i>et al.</i> , 2013 ; Brown <i>et al.</i> , 1998
	Sfmbt	-	Binds with methylated lysine in H3	Larval lethality, tumors	Klymenko <i>et al.</i> , 2006
PR:DUB	Calypso	BAP1	Deubiquitinase	Embryonic lethality, homeotic transformation,	de Alonso Ayala <i>et al.</i> , 2007
	Asx	ASXL1/2	Binds Chromatin	Embryonic/larval lethality, mitotic cell cycle defects, homeotic defects	McKeon <i>et al.</i> , 1994; O'Dor <i>et al.</i> , 2006; Mollaaghbababa <i>et al.</i> , 2001
TrxG Proteins					
COMPASS	dSet1	Set1A/B	H3K4 methyl transferase activity	Lethality, wing defects	Hallson <i>et al.</i> , 2012; Dietz <i>et al.</i> , 2015
	Wdr82	WDR82	Binds with Histone	Lethality, flight defects	Hallson <i>et al.</i> , 2012; Schnorrer <i>et al.</i> , 2010
	Cfp1	CFP	Binds with DNA	Lethality	Mummary-Widmer <i>et al.</i> , 2009
MLL1/2 COM-PASS-like	Trx	MLL1/2	H3K4 methylation	Lethality, homeotic phenotype, mitotic cell cycle defects	Mazo <i>et al.</i> , 1990; Lagarou <i>et al.</i> , 2008; Muyrers-Chen <i>et al.</i> , 2004
	Hcf1	HCF1	-	Lethality, female sterility, reduced male fertility	Rodriguez-Jato <i>et al.</i> , 2011
	Menin	MENIN	Promotes recruitment	Lethality, melanotic tumours	Cerrato <i>et al.</i> , 2006
MLL3/4 COM-PASS-like	Trr	MLL3/4	H3K4 methylation	Lethality, rough eyes	Sedkov <i>et al.</i> , 1999; 2003
	Utx	UTX	H3K27 demethylation	Lethality, rough eyes	Denton <i>et al.</i> , 2013; Herz <i>et al.</i> , 2010
ASH1	Ash1	ASH1L	H3K36 m3thylation	Larval/pupal lethality; homeotic defects	Tripoulas <i>et al.</i> , 1996; Lagarou <i>et al.</i> , 2008
	dCbp	CBP	H3K27 acetylation	Lethality	Bourbon <i>et al.</i> , 2002
BAF/PBAF complex	BRM	BRM/BRG1 (SMARCA2/SMARCA4)	ATP-dependent chromatin remodelling	Lethality, homeotic defects, mitotic cell cycle defects, melanotic tumors	Brizuela <i>et al.</i> , 1994; Nakayama <i>et al.</i> , 2012; Remaud <i>et al.</i> , 2008;
	OSA	BAF250	DNA binding	Embryonic lethality, defects in nervous system development, Eye size defects	Neumüller <i>et al.</i> , 2011; Chanut <i>et al.</i> , 2000
	MOR	BAF155, BAF170	Possible Chromatin binding	Embryonic/larval lethality, defective immune response, defects in nervous system	Brumby <i>et al.</i> , 2004; Bonnay <i>et al.</i> , 2014; Neumüller <i>et al.</i> , 2011;
	SNR1	hSNF5/INI1	DNA binding	Embryonic/larval lethality, Female sterility	Zraly <i>et al.</i> , 2003; Spradling <i>et al.</i> , 1999;

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