

**Table S2 The Complete Data of the RNAi-based Screen for Novel DUB Regulators of Notch Signaling in *Drosophila*.** Adult wing and scutellar bristle phenotypes were scored when the expression of individual DUBs was knocked down by specific RNAi using the *c96*-Gal4 and *dpp*-Gal4 drivers, respectively.

<b>Ubiquitin C-Terminal Hydrolases, IPR001578, Peptidase C12, Ubiquitin Carboxyl-terminal Hydrolase 1</b>				
<b>CG Number</b>	<b>RNAi Strains</b>	<b>Wing Phenotypes (<i>c96</i>-Gal4)</b>	<b>Bristle Phenotypes (<i>dpp</i>-Gal4)</b>	<b>Other Phenotypes</b>
CG1950	N1950R-1	No phenotype	No phenotype	a
	N1950R-2	No phenotype	No phenotype	a
CG4265	V103614	No phenotype	No phenotype	a
	N4265R-1	No phenotype	No phenotype	a
	N4265R-2	No phenotype	No phenotype	a
CG3431	V103481	No phenotype	Pupal lethal	f
	N3431R-1	No phenotype	Arrest before 3rd-instar larvae	b
	N3431R-3	No phenotype	Arrest before 3rd-instar larvae	b
CG8445 ( <i>calypso</i> )	V107757	Notched wing	More scutellar bristles (SCBs)	f
	N8445R-1	No phenotype	No phenotype <sup>1</sup>	b
	N8445R-2	No phenotype	No phenotype <sup>1</sup>	a
<b>4 genes</b>	<b>11 RNAi strains</b>			
<b>Ubiquitin-Specific Proteases, IPR001394, Peptidase C19, Ubiquitin Carboxyl-terminal Hydrolase 1</b>				
<b>CG Number</b>	<b>RNAi Strains</b>	<b>Wing Phenotypes (<i>c96</i>-Gal4)</b>	<b>Bristle Phenotypes (<i>dpp</i>-Gal4)</b>	<b>Other Phenotypes</b>
CG12082	V17567	Loss of margin bristles, wrinkled wing	Pupal lethal	f
	N12082R-2	Loss of margin bristles, wrinkled wing	Less SCBs	b
CG14619	V104382	No phenotype	No phenotype	f
	N14619R-1	No phenotype	No phenotype	b
	N14619R-3	No phenotype	No phenotype	b
CG1490 ( <i>Usp-7</i> )	V18231	No phenotype	Less SCBs	c
	V110324	No phenotype	Pupal lethal	f
CG15817	V41604	No phenotype	No phenotype	a
	V100992	No phenotype	No phenotype	f

CG1945 (faf)	V107716	No phenotype	No phenotype	f
	N1945R-1	No phenotype	No phenotype	b
	N1945R-2	No phenotype	No phenotype	b
CG2904 (ec)	V106671	No phenotype	Pupal lethal	f
	N2904R-1	No phenotype	No phenotype	a
	N2904R-2	No phenotype	No phenotype	a
CG3016	V110616	No phenotype	No phenotype	f
	N3016R-1	No phenotype	No phenotype	b
	N3016R-2	No phenotype	No phenotype	b
CG30421	V33726	No phenotype	No phenotype	a
CG32479	V37858	Notched wing, wrinkled wing	Lethal before 3rd-instar larvae <sup>2</sup>	c
	V37859	Notched wing	Pupal lethal	c
CG4165	V110286	No phenotype	No phenotype	f
	N4165R-1	No phenotype	No phenotype	b
	N4165R-2	No phenotype	No phenotype	b
CG4166 (Not)	V45775	Loss of margin bristles, wrinkled wing	Lethal before 3rd-instar larvae <sup>2</sup>	c
	V45776	Loss of margin bristles, wrinkled wing	Lethal before 3rd-instar larvae <sup>2</sup>	c
CG5384	V27405	No phenotype	No phenotype	c
CG5486 (Ubp64E)	V26027	No phenotype	No phenotype	a
	V103743	No phenotype	No phenotype	f
	N5486R-3	No phenotype	No phenotype	a
	N5486R-4	No phenotype	No phenotype	a
	V11152	No phenotype	No phenotype	a
CG5505 (scny)	V105989	No phenotype	Less SCBs	f
	V101414	No phenotype	No phenotype	f
CG5603 (CYLD)	N5603R-1	No phenotype	No phenotype	a
	N5603R-2	No phenotype	No phenotype	a
	V27517	No phenotype	Pupal lethal <sup>3</sup>	c
CG5794	V106192	No phenotype	Pupal lethal <sup>3</sup>	f
	V107623	Loss of margin bristles, curved wing	Pupal lethal	e
CG7023	V27799	No phenotype	No phenotype	d
CG7288	V47663	Notched wing	Pupal lethal	c

	V110535	Notched wing	Lethal before 3rd-instar larvae	f
	N7288R-1	Notched wing	Pupal lethal <sup>3</sup>	b
	N7288R-2	Loss of margin bristles	Pupal lethal <sup>3</sup>	b
CG8232	N8232R-3	No phenotype	No phenotype	b
CG8334	V18981	No phenotype	No phenotype	a
CG8494	V23934	No phenotype	No phenotype	a
	V28910	No phenotype	No phenotype	a
CG8830	V28960	No phenotype	No phenotype	c

**23 genes**                      **49 RNAi strains**

**Machado-Joseph Disease Domain Proteases, IPR006155, Machado-Joseph Disease Protein MJD**

CG Number	RNAi Strains	Wing Phenotypes ( <i>c96-Gal4</i> )	Bristle Phenotypes ( <i>dpp-Gal4</i> )	Other Phenotypes
CG3781	V7113	No phenotype	No phenotype	a
	V108379	No phenotype	No phenotype	a

**1 gene**                      **2 RNAi strains**

**Otubain Proteases, IPR003323, Ovarian Tumour, Otubain**

CG Number	RNAi Strains	Wing Phenotypes ( <i>c96-Gal4</i> )	Bristle Phenotypes ( <i>dpp-Gal4</i> )	Other Phenotypes
CG12743	V108845	No phenotype	No phenotype	f
	N12743R-1	No phenotype	No phenotype	b
	N12743R-3	No phenotype	No phenotype	b
CG3251	V34573	No phenotype	No phenotype	a
	V100532	No phenotype	Less SCBs	f
CG4603	V21894	No phenotype	No phenotype	a
	N4603R-1	No phenotype	No phenotype	b
	N4603R-2	No phenotype	No phenotype	a
CG4968	V21978	No phenotype	No phenotype	a
CG6091	V27558	No phenotype	No phenotype	c
	V27559	No phenotype	No phenotype	c

	V110659	No phenotype	No phenotype	f
CG7857	V105469	No phenotype	No phenotype	f
	N7857R-2	No phenotype	No phenotype	b
	N7857R-3	No phenotype	No phenotype	b
CG9448	V24030	No phenotype	No phenotype	a

**7 genes**                      **16 RNAi strains**

**JAMM Domain Proteases, IPR000555, Mov34/MPN/PAD-1**

CG Number	RNAi Strains	Wing Phenotypes ( <i>c96-Gal4</i> )	Bristle Phenotypes ( <i>dpp-Gal4</i> )	Other Phenotypes
CG14884	N14884R-1	No phenotype	Reduced scutellum size, 2 shafts in 1 socket	b
CG18174 (Rpn11)	V19272	Notched wing, loss of margin bristles	Pupal lethal <sup>4</sup>	c
	V19273	No phenotype	No phenotype	a
CG2224	V20852	No phenotype	No phenotype	a
	V108622	No phenotype	No phenotype	f
CG3416 (Mov34)	V26183	Notched wing	Pupal lethal	c
	V108573	Notched wing	Pupal lethal	f
CG4751	V26623	No phenotype	No phenotype	a
	V45530	No phenotype	No phenotype	a
CG6932 (CSN6)	V22307	No phenotype	Pupal lethal	c
	V105385	No phenotype	Stunted SCBs, 2 shafts in 1 socket	f
CG8335	V108169	No phenotype	No phenotype	f
	N8335R-1	No phenotype	No phenotype	a
	N8335R-7	No phenotype	No phenotype	a
CG8877 (Prp8)	V18567	Notched wing	Pupal lethal	c
	N8877R-2	Notched wing	Pupal lethal <sup>3</sup>	b
	N8877R-3	Notched wing	Pupal lethal <sup>5</sup>	b
CG9124 (eIF-3p40)	V106189	Loss of margin bristles	Pupal lethal	f
	N9124R-1	No phenotype	No phenotype	b
	N9124R-2	No phenotype	Pupal lethal	b
CG9769 (eIF3-S5)	V101465	Loss of margin bristles	Pupal lethal	f

**10 genes**                      **21 RNAi strains**

<sup>1</sup> Males have extra sex-combs on all legs

<sup>2</sup> Escapers at a lower temperature with more SCBs

<sup>3</sup> Escapers at a lower temperature with less SCBs

<sup>4</sup> Escapers at a lower temperature with reduced scutellum size, less SCBs

<sup>5</sup> Escapers at a lower temperature with less SCBs, 2 shafts in 1 socket

a. No phenotype when overexpressed by different Gal4 drivers in published screens

b. Lethal (semi-lethal) or altered adult structure when driven by the *Act5C*-Gal4 (From the NIG Database)

c. Lethal (semi-lethal) or altered adult structure when driven by the *pnr*-Gal4 (Mummery-Widmer et al. 2009)

d. Lethal when driven by the *elav*-Gal4 (Neely et al. 2010)

e. Lethal (semi-lethal) or altered adult structure when driven by the *sd*-Gal4 (Mukai et al. 2010)

f. Not tested in other RNAi-based screens (the NIG Database; Cronin et al. 2009; Mummery-Widmer et al. 2009; Pospisilik et al. 2009; Neely et al. 2010a; Neely et al. 2010b; Saj et al. 2010; Neumuller et al, 2011; Valakh et al. 2012)