

## Drosophila mutants with memory defects

Description	Genotype	Break point	ID	Source
P{lacW} insertion within nemy	w1118; nemy <sup>p153</sup>	2 (49B-49C)	nemy <sup>p153</sup> /2-35	Iliadi KG
Imprecise excision P{lacW}nemyP153	w1118; ex45 <sup>29</sup>	2	Ex 45 <sup>29</sup> /2-37b	Iliadi KG
Imprecise excision P{lacW}nemyP153	w+; ex45 <sup>29</sup>	2	Ex 45 <sup>29</sup> /2-37a	Iliadi KG
Imprecise excision of GE16037: EP lines from GenExel Inc (collection P-insertion lines)	w1118; ex26.2/ex26.2	2	nemy 26.2/2-42b	Iliadi KG
Imprecise excision of GE16037: EP lines from GenExel Inc (collection P-insertion lines)	w+; ex26.2/ex26.2	2	nemy 26.2/2-42a	Iliadi KG
P{lacW} insertion before CG10151	w*; P171 <sup>P171</sup>	2 (48A-48B)	P171/3-16	Iliadi KG
P{lacW} insertion before CG10151	w1118; P171 <sup>P171</sup>	2 (48A-48B)	P171/3-16	Iliadi KG
Imprecise excision of P171 with deletion 727 bps of the CG10151 (before ATG)	w*; Ex P171	2	6F7/3-18	Knight D., Harvey P.J.
Imprecise excision of P171 with deletion 727 bps of the CG10151 (before ATG)	w1118; Ex P171	2	6F7/3-18	Knight D., Harvey P.J.
P{lacW} insertion P124	w*; P124	2	P-124/3-36	Iliadi KG
Imprecise excision of P124 with deletion in ENT2 (before transcribed region)	w*; Ex P124	2	1J7/3-25	Knight D., Harvey P.J.
Imprecise excision of P124 with deletion in ENT2 (before transcribed region)	w1118; Ex P124	2	1J7/3-25	Knight D., Harvey P.J.
Imprecise excision of P{?GawB}amn <sup>X8</sup> with deletion 800bps of the amn open reading frame	w* Ex-X8	X (18F4-19A2)	amn <sup>X8</sup> /3-33	Scott Waddell
Second and third chromosome balancer (background of Canton-S)	w1118(CS); Sp(CS)/CyO; Sb(CS)/TM3-Ser	---	BAL/4-3	Iliadi KG
Second and third chromosome balancer. Expresses GFP after heat shock	w; Sp/CyO-GFP; Sb/TM3 Ser-GFP	---	BAL GFP/4-8	Iliadi KG
Stock with constitutive expression of transposase	y, w; Sp/CyO; Δ2-3, Sb(y+)/TM6, Ubx	---	GB 610/4-29	Iliadi KG
P{EPgy2} insertion within CG10151 May be segregating CyO	y[1] w[67c23]; P{w[+mC] y[+mDint2]=EPgy2} CG10151[EY03966]	2R 51C2	15695/3-31	BL

rut1 - loss of function allele (mutagen - ethyl methanesulfonate)	Single point mutation substituting adenine for guanine at position 3459, corresponding to arginine substituted for glycine at amino acid 1026	X (12F4-12F5)	9404 rut1/3-34	BL
P{IArB} insertion within rut	w+ rut2080	X ( 12F4-12F5 )	rut2080/3-38	G. Roman
dnc1 - hypomorphic allele (mutagen - ethyl methanesulfonate)	dnc1/FM7a	X (3C9-3D1)/ 3-35	dnc1/FM7a/3-37	Ronald L. Davis
dnc1 - hypomorphic allele (mutagen - ethyl methanesulfonate)	---	X (3C9-3D1)/ 3-35	6020	BL
Orco1 - loss of function allele (mutagen - recombination, FLPase, SCEI endonuclease) Also known as or83b1 The w+ has been inserted in place of a region of the Or83b gene	w[*]; w[+] Orco[1]	3 (83A2-83A2)	23129/4-39	BL
Orco2 - loss of function allele (mutagen - recombination, FLPase, SCEI endonuclease) Also known as or83b2 The w+ has been inserted in place of a region of the Or83b gene	w[*]; w[+] Orco[2]	3 (83A2-83A2)	23130/ 4-34	BL
This allele has been known as l(2)jf24[b19], l(2)25Dc[3] and nompC[3]. It was made by J. Szidonya and is a different allele from the nompC[3] allele made in the C. Zuker lab.	nompC[b19]/SM6b	2	4581/4-38	BL
This allele has been known as l(2)jf24[h25], l(2)25Dc[4] and nompC[4]. It was made by J. Szidonya and is a different allele from the nompC[4] allele made in the C. Zuker lab.	nompC[4]/SM6b	2	4582/4-35	BL
P{GT1} insertion within desat1	w[1118]; P{w[+mGT]=GT1}desat1[BG00955]	3R 87B10	12520/4-36	BL
P{lacW} insertion within Gr39a and Mio	y[1] w[67c23]; P{w[+mC]=lacW}l(2)k05106[k05106]/C yo	2L 39C1	10562/4-37	BL

- Iliadi KG: The Hospital for Sick Children, Canada.

<http://www.sickkids.ca/aboutsickkids/newsroom/past-news/2008/boulianne.html>

Iliadi KG, Avivi A, Iliadi NN, Knight D, Korol AB, Nevo E, Taylor P, Moran MF, Kamyshev NG, Boulianne GL. nemy encodes a cytochrome b561 that is required for Drosophila learning and memory. Proc Natl Acad Sci U S A. 2008 Dec 16;105(50):19986-91. Epub 2008 Dec 8.

[PUBMED](#) <http://www.ncbi.nlm.nih.gov/pubmed/19064935>

- Knight D., Harvey P.J.: The Hospital for Sick Children, Canada.

<http://www.sickkids.ca/aboutsickkids/newsroom/past-news/2008/boulianne.html>

Knight D, Harvey PJ, Iliadi KG, Klose MK, Iliadi N, Dolezelova E, Charlton MP, Zurovec M, Boulianne GL. Equilibrative nucleoside transporter 2 regulates associative learning and synaptic function in *Drosophila*. *J Neurosci*. 2010 Apr 7;30(14):5047-57. doi: 10.1523/JNEUROSCI.6241-09.2010.

[PUBMED](#) <http://www.ncbi.nlm.nih.gov/pubmed/20371825>

- Scott Waddell: Center for Learning and Memory Department of Brain and Cognitive Sciences  
Department of Biology Massachusetts Institute of Technology, Cambridge, USA

<http://clm.utexas.edu/index.html>

Waddell S, Armstrong JD, Kitamoto T, Kaiser K, Quinn WG.

The amnesiac gene product is expressed in two neurons in the *Drosophila* brain that are critical for memory. *Cell*. 2000 Nov 22;103(5):805-13.

[PUBMED](#) <http://www.ncbi.nlm.nih.gov/pubmed/11114336>

- Ronald L. Davis: Department of Molecular and Cellular Biology, Baylor College of Medicine, Houston, Texas, USA.

[http://wwwbcm.edu/db/db\\_fac-davis.html](http://wwwbcm.edu/db/db_fac-davis.html)

Dauwalder B, Davis RL. Conditional rescue of the dunce learning/memory and female fertility defects with *Drosophila* or rat transgenes. *J Neurosci*. 1995 May;15(5 Pt 1):3490-9.

[PUBMED](#) <http://www.ncbi.nlm.nih.gov/pubmed/7751924>

- BL: Bloomington *Drosophila* Stock Center, Indiana University, USA

<http://flystocks.bio.indiana.edu/>

- G. Roman: : Department of Molecular and Cellular Biology, Baylor College of Medicine, Houston, Texas, USA.

<http://wwwbcm.edu/db/>

Mao Z, Roman G, Zong L, Davis RL.

Pharmacogenetic rescue in time and space of the rutabaga memory impairment by using Gene-Switch. *Proc Natl Acad Sci U S A*. 2004 Jan 6;101(1):198-203. Epub 2003 Dec 18.

[PUBMED](#) <http://www.ncbi.nlm.nih.gov/pubmed/14684832>