

Table S 2 GWAS top ranked associations by P-value

Position	Alleles	Gene	Class	<i>CyO</i> background			<i>Df(2L)2802</i> background		
				AF	P-value	Rank	AF	P-value	Rank
2L 12252172	T/C	<i>Aret</i>	Intron	NA	NA	NA	0.095	1.3x10 ⁻⁵	5
2R 11802982	C/T	<i>Sli</i>	Intron	NA	NA	NA	0.274	1.6x10 ⁻⁵	9
2R 12408574	T/C	<i>Sema-2a</i>	Intron	0.126	1.8x10 ⁻⁵	6	0.124	1.7x10 ⁻⁵	10
2R 18531570	T/C	NA	Intergenic	0.051	3.1x10 ⁻⁵	8	0.05	3.5x10 ⁻⁵	19
3L 1775145	A/G	<i>CG13933</i>	5'UTR	0.34	5.8x10 ⁻⁶	3	0.344	3.2x10 ⁻⁶	3
3L 2081047	A/G	<i>sls</i>	Synonymous	0.116	2.4x10 ⁻⁵	7	0.113	2.1x10 ⁻⁵	13
3L 2288054	G/T	<i>DmsR-2</i>	Intron	0.198	9.8x10 ⁻⁶	5	0.194	1.3x10 ⁻⁵	6
3L 2568884	T/C	<i>msn</i>	Intron	0.375	4.0x10 ⁻⁶	2	0.378	1.3x10 ⁻⁵	7
3L 3595434	T/G	<i>Eip63E</i>	Intron	0.219	1.2x10 ⁻⁶	1	0.214	1.7x10 ⁻⁶	1
3L 5909455	T/C	<i>CG13288</i>	Intron	0.202	9.2x10 ⁻⁶	4	0.208	3.2x10 ⁻⁶	2
3L 5909456	G/C	<i>CG13288</i>	Intron	0.208	3.5x10 ⁻⁵	11	0.214	1.3x10 ⁻⁵	4
3L 12852675	C/G	<i>CG32107</i>	Nonsyn.	0.333	3.4x10 ⁻⁵	9	0.337	1.2x10 ⁻⁴	78
3L 12852676	T/C	<i>CG32107</i>	Nonsyn.	0.333	3.4x10 ⁻⁵	10	0.337	1.2x10 ⁻⁴	79
3R 4014584	C/T	NA	Intergenic	NA	NA	NA	0.116	1.5x10 ⁻⁵	8