

Poldip2 promotes mtDNA elimination during *Drosophila* spermatogenesis to ensure maternal inheritance

Ziming Wang^{1,2†}, Tirawit Meerod^{3†}, Nuria Cortes-Silva^{1,2,4†}, Ason C-Y Chiang^{3†}, Ziyang Nie^{1,2,5}, Ying Di^{1,2,6},
Peiqiang Mu⁷, Ankit Verma¹, Adam James Reid¹, Hansong Ma^{3*}

Appendix

Table of Content

Appendix Table S1. <i>EMS</i> -23 mutations and mapping results	2
Appendix Table S2: Primers used in this study	3

Appendix Table S1: EMS-23 mutations and mapping results

Gene	Mutation type	NT change	Impact	Df cross	mtDNA retention
<i>pcyt1</i>	missense	c.308C>T	moderate	Df(3L)BSC289	wildtype
<i>pxn</i>	missense	c.1729G>A	moderate	Df(3L)BSC119	wildtype
		c.3790G>A		Df(3L)BSC23	wildtype
<i>lr64a</i>	missense	c.434G>A	moderate	Df(3L)BSC371	wildtype
		c.1822G>A		Df(3L)Exel6105	wildtype
<i>CG7504</i>	frameshift	c.1131delA	high	Df(3L)Exel6112	wildtype
				Df(3L)BSC388	wildtype
<i>CG5653</i>	missense	c.568G>A	moderate	Df(3L)ED4421	wildtype
<i>tna</i>	missense	c.2839C>T	moderate	Df(3L)ED4457	wildtype
<i>CG6793</i>	stop_gained	c.109C>T	high	Df(3L)ED4475	wildtype
<i>CG32104</i>	missense	c.1684G>A	moderate	Df(3L)ED4475	wildtype
<i>CG14115</i>	missense	c.604G>A	moderate	Df(3L)BSC12	wildtype
<i>bbg</i>	missense	c.2585G>A	moderate	Df(3L)ED4543	wildtype
<i>CTPsyn</i>	missense	c.74C>T	moderate	Df(3L)ED217	wildtype
<i>rpn1</i>	missense	c.2701C>T	moderate	Df(3L)ED4858	wildtype
<i>CG5664</i>	missense	c.1942A>T	moderate	Df(3L)BSC419	wildtype
<i>orco</i>	missense	c.523G>A	moderate	Df(3R)ED5156	wildtype
<i>poldip2</i>	missense	c.895C>T	moderate	BDSC17500	Medium/high
<i>osi17</i>	missense	c.670C>T	moderate	Df(3R)BSC681	wildtype
				Df(3R)BSC745	wildtype
<i>fst</i>	conservative_infra me_insertion	c.346_357dupCC ACCACCACCA	moderate	Df(3R)ED5428	wildtype
				Df(3R)Exel6264	wildtype
<i>CG42727</i>	frameshift	c.558delC	high	Df(3R)ED5705	wildtype
<i>lkb1</i>	missense	c.1190C>T	moderate	Df(3R)ED5623	wildtype
<i>sxe2</i>	missense	c.535C>T	moderate	Df(3R)Exel7328	wildtype
<i>cstF64</i>	missense	c.404C>T	moderate	Df(3R)ED2	wildtype
<i>CG4662</i>	missense	c.1335G>T	moderate	Df(3R)ED6025	wildtype
<i>wda</i>	missense	c.761G>A	moderate	Df(3R)Exel6280	wildtype
				Df(3R)ED6103	wildtype
<i>CG12877</i>	missense	c.2882T>A	moderate	DF(3R)BSC497	wildtype
		c.2887C>A			
<i>NSD</i>	missense	c.376G>A	moderate	Df(3R)ED6280	wildtype
<i>apc</i>	missense	c.509G>A	moderate	Df(3R)BSC874	wildtype
<i>tmod</i>	missense	c.1313C>T	moderate	Df(3R)BSC504	wildtype
		c.1333C>G		Df(3R)Exel7378	wildtype
		c.1339G>A			

Appendix Table S2: Primers used in this study

Primer	Sequence
mt:yak/mel common 6237F, ddPCR	CTTTTAATGGTTAAATTCCATTTATA
mt:yak/mel common 6314R, ddPCR	TTATTATTACAATGAAAATGTAAGGT
mt:mel specific 1847F, ddPCR	TTTATCCACCTTTATCCGCTGGAATT
mt:mel specific 2076R, ddPCR	TGCTAGTACTGGAAGTGATAATAATAA
HEXA F	TGTCAAGTGCTTCGTAAACGTATGTG
HEXA R	GTGCTGCGGTATGGCATAGATG
mt361F	CTTTTATCCCCCTATTAAGAG
mt409R	GAAGCTTCTGTAGATATTAAATTATTA
mt2126F	TTGACCCAGCGGGAGGAGGAGAT
mt2194R	CTTCAGGGTGACCAAAAAATC
mt4357F	CATTTAACTTTAACTTTATCTTTAGCT
mt4444R	GCAAATATATGTTGTGTATGATTAATTC
mt6570F	CAACTAATTGA CCATAATTTAAAGG
mt6636R	TGATTTATACCTTATATTAGAACTTATGG
mt8701F	TATGAGCAACAGATGAATAAGC
mt8750R	ACGTCAAACGTATTTAAAGGC
mt10884F	GTAATAGGAACAGCTTTTATAGG
mt10938R	AAAATGATATTTGTCCTCAAGG
mt13245F	CGTCCAACCATTCATTCCAGCC
mt13321R	GGCCGCAGTATTTTGAAGTGTG