

Table S1. Primers, probes and MgCl<sub>2</sub> concentrations used to assay gene expression by qRT-PCR

Protein	EC	Gene (CG)	F primer (5'–3')	Probe (5'Fam – 3'MGB)	MgCl <sub>2</sub> (mmol l <sup>-1</sup> )*
			R primer (5'–3')		
Acetyl-CoA synthetase	6.2.1.1	<i>AcCoAS</i> (9390)	CGGAAACCGGTGGTCATG CCGCACTCATCCAGCAAAG	CGGGATCTGCTTCATT	3.75
		CG6432	TCCGCACGCTTTACTTTCAA GATATAGCCACGTTTCGTCCTTGT	AGTTTCCGGGTTACTATGA	3.50
		CG8732	GCCTGGGTGATAAGTCCTTTGA CGGGAACCTCATATTTTTGCA	TGCGCGGAAATGTAAA	3.50
Acetaldehyde dehydrogenase	1.2.1.3	<i>Aldh</i> (3752)	GTCCAGCCCACGGTGTTT GGCGGCCAATCCGTACT	TTGCAAGGGAGGAGAT	3.50
Alcohol dehydrogenase	1.1.1.1	<i>Adh</i> (3481)	GACCAACAAGAACGTGATTTTCG GGGTTCTCAATGCGGTCGA	CTGAAGAACCTGGTGATC	3.25
CDP-ethanolamine diglyceride transferase	2.7.8.1	<i>Cdpet</i> (6016)	CCGCCAAGGTCACCAATAA CGTGAACCACAGTAGCCAGATCT	TGATCGCTCACATGAC	3.50
Fatty acid desaturase	1.14.19.1	<i>desat1</i> (5887)	CGCCTTCGGTTACCTCCAT CCTAGGCCAGAAATGACGTATAGAA	CGTGCATCTTAGCTTATT	3.50
Phosphoethanolamine cytidylyltransferase	2.7.7.14	<i>Pect</i> (5547)	AGCGCGTGCTCAGTGTTTT GCGTCCATGACAGACAACATC	CCTGCAAGTTTGTCAAT	3.50
Phosphatidate phosphatase	3.1.3.4	<i>wunen</i> (8804)	TGGCAGGATCGCTTATIGG GCTTCGTGTTGGGCTTTTGA	TCGTGGCCAACAT	3.75
Phospholipase D	3.1.4.4	<i>Plid</i> (12110)	CGCATGAATGGCAAGAAGTATC CCGACTGGAACCTTCGCTTT	AGAACACTTAGGCCTCC	3.50
Ribosomal protein L32	NA	<i>RpL32</i> (7939)	AGGCCCAAGATCGTGAAGAA GACGCACTCTGTTGTCGATACC	AGCTGTGCGACAAAT	3.50
Sphinganine-1-phosphate lyase	4.1.2.27	<i>Sply</i> (8946)	CCTGAATGCGCTGCAGTTT CGACTCCGGGCTGTGTGT	CCATCTGGTATCCACC	3.50
Sterol regulatory element binding protein	NA	<i>Srebp/HLH106</i> (8522)	GAGAAGTTCAGACCGATTTGAA GCGACAAACTGCCTCGTACA	TACCGAACGCCCAATC	3.50

\*Final concentration of MgCl<sub>2</sub> in a 50 ml reaction containing 200 μmol l<sup>-1</sup> dATP, dCTP and dGTP, 400 μmol l<sup>-1</sup> dUTP, 900 nmol l<sup>-1</sup> each primer, 250 nmol l<sup>-1</sup> probe and 0.025 i.u./μl AmpliTaq Gold; PCR, 10 min hold at 95°C followed by at least 30 cycles of 15 s at 95°C and 60 s at 60°C.

Table S2. *Adh* genotypes for the F/S amino acid and  $\nabla 1$  indel polymorphisms

		Innisfail									
Line	2	31	55	65A	72B	75A	77B	78A	80B	90	
F/S*	H <sup>‡</sup>	S	S	S	S	H	H	H	S	H	
$\nabla 1f/\nabla 1s^\dagger$	H	$\nabla 1s$	$\nabla 1s$	$\nabla 1s$	$\nabla 1s$	H	H	H	$\nabla 1s$	H	
		Tasmania									
Line	28	31	55	67	79	81	125	148	151	187	
F/S	F	F	H	F	H	H	F	H	F	H	
$\nabla 1f/\nabla 1s$	$\nabla 1f$	$\nabla 1f$	H	$\nabla 1f$	H	H	$\nabla 1f$	H	$\nabla 1f$	H	

\*Forward primer, agctccctggcggttaagttgat; Reverse primer, acgagggctgggtgggatgag; PCR concentrations, 1.5 mmol l<sup>-1</sup> MgCl<sub>2</sub>, 0.2 mmol l<sup>-1</sup> dNTPs, 0.3 μmol l<sup>-1</sup> each primer, 0.02 i.u./μl *Taq*; PCR, 30 cycles of 50 s at 94°C, 50 s at 65°C and 30 s at 72°C; restriction digest, 1 μg of PCR product with 2.5 i.u. of *Hpy*CH4IV at 37°C for 1.5 h.

<sup>†</sup>Common reverse primer, agggctccgttagttgtgtgttc, in combination with the control forward primer, gccaaagtgcggaaataaaatgacag, and either the  $\nabla 1f$  forward primer, caagcatcaggcatataatata, or the  $\nabla 1s$  forward primer, 5'-caagcatcaggcatagttgggc;  $\nabla 1f$  PCR concentrations, 2.5 mmol l<sup>-1</sup> MgCl<sub>2</sub>, 0.2 mmol l<sup>-1</sup> dNTPs, 0.3 μmol l<sup>-1</sup> control forward primer, 0.3 μmol l<sup>-1</sup>  $\nabla 1f$  forward primer, 0.6 μmol l<sup>-1</sup> reverse primer and 0.025 i.u./μl *Taq*;  $\nabla 1f$  PCR, 30 cycles of 50 s at 94°C, 50 s at 58°C and 50 s at 72°C;  $\nabla 1s$  PCR concentrations, 4.5 mmol l<sup>-1</sup> MgCl<sub>2</sub>, 0.2 mmol l<sup>-1</sup> dNTPs, 0.3 μmol l<sup>-1</sup> control forward primer, 0.3 μmol l<sup>-1</sup>  $\nabla 1s$  forward primer, 0.6 μmol l<sup>-1</sup> reverse primer and 0.015 i.u./μl *Taq*;  $\nabla 1s$  PCR, 30 cycles of 50 s at 94°C, 50 s at 68°C and 50 s at 72°C.

<sup>‡</sup>H, both alleles were present in a sample of 20 flies.