

RNA Interference-Mediated Knockdown of Male Fertility Genes in the Queensland Fruit Fly *Bactrocera tryoni* (Diptera: Tephritidae)

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Supplementary Materials

1. Tables

Table S1. Primers used for RT-PCR and qRT-PCR analyses.

Gene	Primer	Primer Sequence
Putative testis-specific genes		
<i>Testis-specific serine/threonine kinase 1 (tssk1)</i>	QFFtssk RNAi F	TTTCGACAACCTCCAATCGCCAAC
	QFFtssk RNAi R	CGCATAGGAACCCTCGCCAATTT
	QFFtssk qRT F	CGCCGCCTCCTCAACTAAATGAT
	QFFtssk qRT R	CCTTGGTCCACGACCAGACAAAT
<i>Matotopetli (topi)</i>	QFFtopi RNAi F	ACGCTTCTTAAGTGGCTCCGTTT
	QFFtopi RNAi R	GGCATTATTGGCATGCTGCTGTT
	QFFtopi qRT F	CATTTGGATGCGAACGCTCGTTTAATG
	QFFtopi qRT R	GGCATTATTGGCATGCTGCTGTT
<i>Thioredoxin T (trxt)</i>	QFFtrxt RNAi F	GATCTGGATAAGAAGCTGGAGGAAGC
	QFFtrxt RNAi R	TCGGCTTCCACAATTTCTGGCATATT
	QFFtrxt qRT F	GCCGAGAAAGCGATTGTGTTGAAAG
	QFFtrxt qRT R	TGAGTTGCCGCCAACGAATACA
House-keeping reference gene		
<i>Actin</i>	QFFact qRT F	CCATGCCATTCTCCGTTTGGATTG
	QFFact qRT R	AGCTGTGGTGGTGAACGAGTAG
Accessory gland protein genes		
<i>Protein disulfide isomerase (diso)</i>	QFFdiso qRT F	AGGGCGAACACACTGTTGAGAA
	QFFdiso qRT R	GATCTTGGAAGCTGATTCTGTTGA
<i>Odorant binding protein 2 (obp2)</i>	QFFobp2 qRT F	ATCATGCCGGTCACTCCGATTATG
	QFFobp2 qRT R	TCTGGAAAGCTCCACTGCTTGT

Table S2. Percentages of nucleotide similarity between the genome of *Bactrocera tryoni* and the genes of interest in *B. dorsalis* and *Drosophila melanogaster*. Sequence identity analyses were performed using the BLAST program of the National Center for Biotechnology Information (NCBI) (<http://blast.ncbi.nlm.nih.gov/Blast.cgi>).

Gene	% of nucleotide identity with <i>B. dorsalis</i>	% of nucleotide identity with <i>D. melanogaster</i>
<i>Testis-specific serine/threonine kinase 1 (tssk1)</i>	97.5 (XM_011212727.2)	75.0
<i>Matotopetli (topi)</i>	97.1 (XM_011212200.2)	78.0
<i>Thioredoxin T (trxt)</i>	96.4 (XM_011200823.2)	70.0

Table S3. Percentages of nucleotide similarity between the male accessory gland genes in *Bactrocera dorsalis* and the genome of *B. tryoni*. Sequence identity analyses were performed using the BLAST program of the National Center for Biotechnology Information (NCBI) (<http://blast.ncbi.nlm.nih.gov/Blast.cgi>).

Gene	% of nucleotide identity with <i>B. dorsalis</i>
<i>Protein disulfide isomerase (diso)</i>	97.7
<i>Odorant binding protein 2 (obp2)</i>	84.5

2. Figures

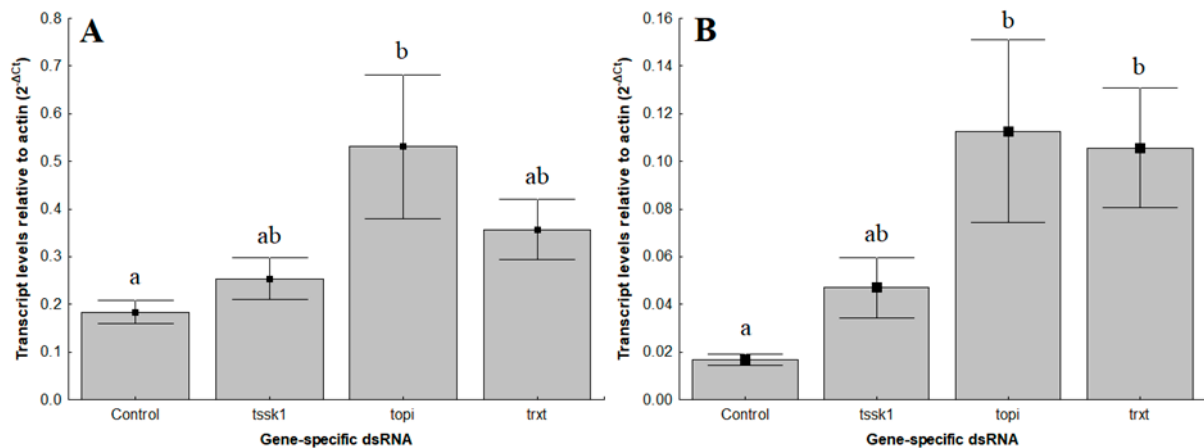


Figure S1. Transcript levels of two male accessory gland protein encoding genes, relative to actin, in *Bactrocera tryoni* after ten days of continuous oral delivery of dsRNA: (A) *Protein disulfide isomerase (diso)*; (B) *Odorant binding protein 2 (obp2)*. Values represent the means (bars) and the 96% standard errors (whiskers) of ten biological replicates; letters indicate significant differences, Tukey test.



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