

GEPHE SUMMARY

	Gephebase Gene		GepheID
para (kdr) (<a +para+(kdr)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+para+(kdr)+"#gephebase-summary-title)		GP00002525	
	Entry Status	Courtier	Main curator
Published			

PHENOTYPIC CHANGE

	Trait Category		
Physiology (<a +physiology+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait+Category=">https://www.gephebase.org/search-criteria?/and+Trait+Category="+Physiology+"#gephebase-summary-title)			
	Trait		
Xenobiotic resistance (insecticide) (<a +xenobiotic+resistance+(insecticide)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Xenobiotic+resistance+(insecticide)+"#gephebase-summary-title)			
	Trait State in Taxon A		
Haematobia irritans exigua			
	Trait State in Taxon B		
Haematobia irritans exigua - resistant			
	Ancestral State		
Taxon A			
	Taxonomic Status		
Intraspecific (<a +intraspecific+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status="+Intraspecific+"#gephebase-summary-title)			
Taxon A		Taxon B	
-	Latin Name	-	Latin Name
-	Common Name	-	Common Name
-	Synonyms	-	Synonyms
-	Rank	-	Rank
-	Lineage	-	Lineage
-	Parent	-	Parent
-	NCBI Taxonomy ID	-	NCBI Taxonomy ID
34678NULL (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=34678NULL)		34678NULL (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=34678NULL)	
No	is Taxon A an Intraspecies?	No	is Taxon B an Intraspecies?

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB Drosophila melanogaster
para		P35500 (http://www.uniprot.org/uniprot/P35500)	GenebankID or UniProtKB
	Synonyms		
bas; bss; CG9907; Dmel CG9907; DmNav; DmNav1; DmNa[[v]]; DmNa[[V]]; DmNa[[V]]1; l(1)14Da; l(1)ESHS48; lincRNA.S9469; Nav1; Ocd; olfD; par; sbl; sbl-1; Shu; Shudderer		()	
	String		
7227.FBpp0303597 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=7227.FBpp0303597)			
	Sequence Similarities		
Belongs to the sodium channel (TC 1.A.1.10) family. Para subfamily.			
	GO - Molecular Function		
GO:0005509 : calcium ion binding (https://www.ebi.ac.uk/QuickGO/term/GO:0005509)			
GO:0005244 : voltage-gated ion channel activity (https://www.ebi.ac.uk/QuickGO/term/GO:0005244)			
GO:0005248 : voltage-gated sodium channel activity (https://www.ebi.ac.uk/QuickGO/term/GO:0005248)			
GO:0005272 : sodium channel activity (https://www.ebi.ac.uk/QuickGO/term/GO:0005272)			
	GO - Biological Process		
GO:0045433 : male courtship behavior, veined wing generated song production (https://www.ebi.ac.uk/QuickGO/term/GO:0045433)			
GO:0001666 : response to hypoxia (https://www.ebi.ac.uk/QuickGO/term/GO:0001666)			
GO:0009612 : response to mechanical stimulus			

(<https://www.ebi.ac.uk/QuickGO/term/GO:0009612>)
 GO:0034765 : regulation of ion transmembrane transport
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0034765>)
 GO:0035725 : sodium ion transmembrane transport
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0035725>)
 GO:0007638 : mechanosensory behavior
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0007638>)
 GO:0060078 : regulation of postsynaptic membrane potential
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0060078>)

GO - Cellular Component

GO:0005887 : integral component of plasma membrane
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0005887>)
 GO:0001518 : voltage-gated sodium channel complex
 (<https://www.ebi.ac.uk/QuickGO/term/GO:0001518>)

Presumptive Null

No (<https://www.gephebase.org/search-criteria?/and+Presumptive Null=~No~#gephebase-summary-title>)

Molecular Type

Coding (<https://www.gephebase.org/search-criteria?/and+Molecular Type=~Coding~#gephebase-summary-title>)

Aberration Type

SNP (<https://www.gephebase.org/search-criteria?/and+Aberration Type=~SNP~#gephebase-summary-title>)

SNP Coding Change

Nonsynonymous

Molecular Details of the Mutation

L1014F

Experimental Evidence

Candidate Gene (<https://www.gephebase.org/search-criteria?/and+Experimental Evidence=~Candidate Gene~#gephebase-summary-title>)

	Taxon A	Taxon B	Position
Codon	-	-	-
Amino-acid	-	-	-

Main Reference

Mechanism of resistance to synthetic pyrethroids in buffalo flies in south-east Queensland. (2011) (<https://pubmed.ncbi.nlm.nih.gov/21323651>)

Authors

Rothwell JT; Morgan JA; James PJ; Brown GW; Guerrero FD; Jorgensen WK

Abstract

Resistance to synthetic pyrethroids (SP) was first recorded in buffalo flies in Australia in 1980, associated with previous use of DDT and fenvalerate. By the 1990s, resistance was widespread. Resistance to SP in the related horn fly of the Americas is associated with *kdr* and *super-kdr* mutations in a gene encoding for a voltage-gated sodium channel. We describe 7-20-fold resistance to SP in buffalo flies from south-east Queensland, present evidence of flies that are heterozygous resistant at the *kdr* locus and show an increase in the frequency of the resistant allele 1 month after treatment of cattle with SP.

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Additional References

Molecular biology of insect sodium channels and pyrethroid resistance. (2014) (<https://pubmed.ncbi.nlm.nih.gov/24704279>)

RELATED GEPHE

No matches found.

Related Genes

No matches found.

Related Haplotypes

EXTERNAL LINKS

COMMENTS

