

## 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</a> )		GP00002490	
	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</a> )		
	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</a> )		
	Trait State in Taxon A	
Aphis gossypii		
	Trait State in Taxon B	
Aphis gossypii - 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</a> )		

Taxon A	Latin Name	Taxon B	Latin Name
Aphis gossypii ( <a +aphis+gossypii^#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Aphis+gossypii^#gephebase-summary-title</a> )		Aphis gossypii ( <a +aphis+gossypii^#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Aphis+gossypii^#gephebase-summary-title</a> )	
	Common Name		Common Name
cotton aphid		cotton aphid	
	Synonyms		Synonyms
cotton aphid; melon aphid; Aphis gossypii Glover, 1877; Aphis gossypii species		cotton aphid; melon aphid; Aphis gossypii Glover, 1877; Aphis gossypii species	
	Rank		Rank
species		species	
	Lineage		Lineage
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Paraneoptera; Hemiptera; Sternorrhyncha; Aphidomorpha; Aphidoidea; Aphididae; Aphidinae; Aphidini; Aphis; Aphis		cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Paraneoptera; Hemiptera; Sternorrhyncha; Aphidomorpha; Aphidoidea; Aphididae; Aphidinae; Aphidini; Aphis; Aphis	
	Parent		Parent
Aphis () - (Rank: subgenus) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=464929">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=464929</a> )		Aphis () - (Rank: subgenus) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=464929">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=464929</a> )	
	NCBI Taxonomy ID		NCBI Taxonomy ID
80765 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=80765">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=80765</a> )		80765 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=80765">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=80765</a> )	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

## GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB Drosophila melanogaster
para		P35500 ( <a href="http://www.uniprot.org/uniprot/P35500">http://www.uniprot.org/uniprot/P35500</a> )	
	Synonyms		GenebankID or UniProtKB
bas; bss; CG9907; Dmel\CG9907; DmNav; DmNav1; DmNa[[v]]; DmNa[[V]]; DmNa[[v]]1; l(1)14Da; l(1)ESH548; lincRNA.S9469; Nav1; Ocd; olfD; par; sbl; sbl-1; Shu; Shudderer		()	
	String		
7227.FBpp0303597 ( <a href="http://string-db.org/newstring.cgi/show_network_section.pl?identifier=7227.FBpp0303597">http://string-db.org/newstring.cgi/show_network_section.pl?identifier=7227.FBpp0303597</a> )			
	Sequence Similarities		
Belongs to the sodium channel (TC 1.A.1.10) family. Para subfamily.			
	GO - Molecular Function		
GO:0005509 : calcium ion binding ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0005509">https://www.ebi.ac.uk/QuickGO/term/GO:0005509</a> )			
GO:0005244 : voltage-gated ion channel activity ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0005244">https://www.ebi.ac.uk/QuickGO/term/GO:0005244</a> )			
GO:0005248 : voltage-gated sodium channel activity ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0005248">https://www.ebi.ac.uk/QuickGO/term/GO:0005248</a> )			
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 ([#gpepbase-summary-title](https://www.gephebase.org/search-criteria?/and+Presumptive+Null+No))

Molecular Type

Coding ([#gpepbase-summary-title](https://www.gephebase.org/search-criteria?/and+Molecular+Type+Coding))

Aberration Type

SNP ([#gpepbase-summary-title](https://www.gephebase.org/search-criteria?/and+Aberration+Type+SNP))

SNP Coding Change

Nonsynonymous

Molecular Details of the Mutation

L1014F

Experimental Evidence

Candidate Gene ([#gpepbase-summary-title](https://www.gephebase.org/search-criteria?/and+Experimental+Evidence+Candidate+Gene))

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

Main Reference

Detection of kdr pyrethroid resistance in the cotton aphid, *Aphis gossypii* (Hemiptera: Aphididae), using a PCR-RFLP assay . (2012) (<https://pubmed.ncbi.nlm.nih.gov/00000000.000028>)

Authors

Marshall Kate L; Moran Christopher; Chen Yizhou; Herron Grant A

Abstract

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Additional References

Insecticide resistance and resistance mechanisms in the melon aphid, *Aphis gossypii*, in Shandong, China. (2021) (<https://pubmed.ncbi.nlm.nih.gov/33518055>)

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

RELATED GEPHE

Related Genes

3 (Acetylcholinesterase (Ace-1), Acetylcholinesterase (Ace-2), nAChR) (<https://www.gephebase.org/search-criteria?/or+Taxon+ID+80765+and+Trait=Xenobiotic+resistance+and+groupHaplotypes=true#gpepbase-summary-title>)

Related Haplotypes

1 ([https://www.gephebase.org/search-criteria?/or+Gene+Gephebase+para+\(kdr\)+and+Taxon+ID+80765+or+Gene+Gephebase+para+\(kdr\)+and+Taxon+ID+80765#gpepbase-summary-title](https://www.gephebase.org/search-criteria?/or+Gene+Gephebase+para+(kdr)+and+Taxon+ID+80765+or+Gene+Gephebase+para+(kdr)+and+Taxon+ID+80765#gpepbase-summary-title))

EXTERNAL LINKS

COMMENTS

