

GEPHE SUMMARY

	Gephebase Gene		GepheID
resistance to dieldrin (https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=^resistance to dieldrin^#gephebase-summary-title)		GP00002563	
Published	Entry Status	Courtier	Main curator

PHENOTYPIC CHANGE

	Trait Category		
Physiology (https://www.gephebase.org/search-criteria?/and+Trait+Category=^Physiology^#gephebase-summary-title)			
	Trait		
Xenobiotic resistance (insecticide) (https://www.gephebase.org/search-criteria?/and+Trait=^Xenobiotic resistance (insecticide)^#gephebase-summary-title)			
	Trait State in Taxon A		
Sogatella furcifera			
	Trait State in Taxon B		
Sogatella furcifera - resistant lab strain			
	Ancestral State		
Taxon A			
	Taxonomic Status		
Experimental Evolution (https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=^Experimental Evolution^#gephebase-summary-title)			
Taxon A		Taxon B	
	Latin Name		Latin Name
Sogatella furcifera (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Sogatella furcifera^#gephebase-summary-title)		Sogatella furcifera (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Sogatella furcifera^#gephebase-summary-title)	
	Common Name		Common Name
white-backed planthopper		white-backed planthopper	
	Synonyms		Synonyms
Sogota furcifera; white-backed planthopper; Sogatella furcifera (Horvath, 1899)		Sogota furcifera; white-backed planthopper; Sogatella furcifera (Horvath, 1899)	
	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; Auchenorrhyncha; Fulgoromorpha; Fulgoroidea; Delphacidae; Delphacinae; Sogatella		cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Paraneoptera; Hemiptera; Auchenorrhyncha; Fulgoromorpha; Fulgoroidea; Delphacidae; Delphacinae; Sogatella	
	Parent		Parent
Sogatella () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=113102)		Sogatella () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=113102)	
	NCBI Taxonomy ID		NCBI Taxonomy ID
113103 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=113103)		113103 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=113103)	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB Drosophila melanogaster
Rdl		P25123 (http://www.uniprot.org/uniprot/P25123)	
	Synonyms		GenebankID or UniProtKB
CG10537; CT29555; Dmel\CG10537; DmRdl; DmRDL; gaba; GABA; GABA-R; GABA _r ; GABA[[A]]; GABA[[A]] receptor; GABA[[A]]-R; GABA[[A]]R; LCCH1; Rdl; rdl; RDL		()	
	String		
7227.FBpp0305970 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=7227.FBpp0305970)			
	Sequence Similarities		
Belongs to the ligand-gated ion channel (TC 1.A.9) family. Gamma-aminobutyric acid receptor (TC 1.A.9.5) subfamily.			
	GO - Molecular Function		
GO:0004890 : GABA-A receptor activity (https://www.ebi.ac.uk/QuickGO/term/GO:0004890)			
GO:0022851 : GABA-gated chloride ion channel activity (https://www.ebi.ac.uk/QuickGO/term/GO:0022851)			
GO:0030594 : neurotransmitter receptor activity			

(<https://www.ebi.ac.uk/QuickGO/term/GO:0030594>)

GO - Biological Process

- GO:0007165 : signal transduction (<https://www.ebi.ac.uk/QuickGO/term/GO:0007165>)
- GO:0007268 : chemical synaptic transmission (<https://www.ebi.ac.uk/QuickGO/term/GO:0007268>)
- GO:0034220 : ion transmembrane transport (<https://www.ebi.ac.uk/QuickGO/term/GO:0034220>)
- GO:0042493 : response to drug (<https://www.ebi.ac.uk/QuickGO/term/GO:0042493>)
- GO:0050877 : nervous system process (<https://www.ebi.ac.uk/QuickGO/term/GO:0050877>)
- GO:0042391 : regulation of membrane potential (<https://www.ebi.ac.uk/QuickGO/term/GO:0042391>)
- GO:0006811 : ion transport (<https://www.ebi.ac.uk/QuickGO/term/GO:0006811>)
- GO:0042048 : olfactory behavior (<https://www.ebi.ac.uk/QuickGO/term/GO:0042048>)
- GO:0030431 : sleep (<https://www.ebi.ac.uk/QuickGO/term/GO:0030431>)
- GO:0009612 : response to mechanical stimulus (<https://www.ebi.ac.uk/QuickGO/term/GO:0009612>)
- GO:0002121 : inter-male aggressive behavior (<https://www.ebi.ac.uk/QuickGO/term/GO:0002121>)
- GO:0050805 : negative regulation of synaptic transmission (<https://www.ebi.ac.uk/QuickGO/term/GO:0050805>)
- GO:0042749 : regulation of circadian sleep/wake cycle (<https://www.ebi.ac.uk/QuickGO/term/GO:0042749>)
- GO:0090328 : regulation of olfactory learning (<https://www.ebi.ac.uk/QuickGO/term/GO:0090328>)

GO - Cellular Component

- GO:0016021 : integral component of membrane (<https://www.ebi.ac.uk/QuickGO/term/GO:0016021>)
- GO:0005886 : plasma membrane (<https://www.ebi.ac.uk/QuickGO/term/GO:0005886>)
- GO:0005887 : integral component of plasma membrane (<https://www.ebi.ac.uk/QuickGO/term/GO:0005887>)
- GO:0030054 : cell junction (<https://www.ebi.ac.uk/QuickGO/term/GO:0030054>)
- GO:0030425 : dendrite (<https://www.ebi.ac.uk/QuickGO/term/GO:0030425>)
- GO:0043005 : neuron projection (<https://www.ebi.ac.uk/QuickGO/term/GO:0043005>)
- GO:0030424 : axon (<https://www.ebi.ac.uk/QuickGO/term/GO:0030424>)
- GO:0045211 : postsynaptic membrane (<https://www.ebi.ac.uk/QuickGO/term/GO:0045211>)
- GO:0045202 : synapse (<https://www.ebi.ac.uk/QuickGO/term/GO:0045202>)
- GO:0034707 : chloride channel complex (<https://www.ebi.ac.uk/QuickGO/term/GO:0034707>)
- GO:0032589 : neuron projection membrane (<https://www.ebi.ac.uk/QuickGO/term/GO:0032589>)
- GO:0032809 : neuronal cell body membrane (<https://www.ebi.ac.uk/QuickGO/term/GO:0032809>)

Mutation #1

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

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

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

Nonsynonymous SNP Coding Change

A301N + R357Q Molecular Details of the Mutation

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

	Taxon A	Taxon B	Position
Codon	-	-	-
Amino-acid	Ala	Asn	301

Mutation of the GABA receptor associated with fipronil resistance in the whitebacked planthopper, *Sogatella furcifera*. (2010) (<https://pubmed.ncbi.nlm.nih.gov/00000000.000046>) Main Reference

Nakao Toshifumi; Naoi Atsuko; Kawahara Nobuyuki; Hirase Kangetsu Authors

- Abstract

Genotype to phenotype, the molecular and physiological dimensions of resistance in arthropods. (2015) (<https://pubmed.ncbi.nlm.nih.gov/26047113>) Additional References

Mutation #2

No ([https://www.gephebase.org/search-criteria?/and+Presumptive Null=^No^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Presumptive+Null=^No^#gephebase-summary-title))

Presumptive Null

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

Molecular Type

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

Aberration Type

Nonsynonymous

SNP Coding Change

A301N + R357Q

Molecular Details of the Mutation

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

Experimental Evidence

	Taxon A	Taxon B	Position
Codon	-	-	-
Amino-acid	Arg	Gln	357

Mutation of the GABA receptor associated with fipronil resistance in the whitebacked planthopper, *Sogatella furcifera*. (2010) (<https://pubmed.ncbi.nlm.nih.gov/00000000.000039>)

Main Reference

Nakao Toshifumi; Naoi Atsuko; Kawahara Nobuyuki; Hirase Kangetsu

Authors

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Abstract

Genotype to phenotype, the molecular and physiological dimensions of resistance in arthropods. (2015) (<https://pubmed.ncbi.nlm.nih.gov/26047113>)

Additional References

RELATED GEPHE

No matches found.

Related Genes

No matches found.

Related Haplotypes

EXTERNAL LINKS

COMMENTS