

## GEPHE SUMMARY

	Gephebase Gene	GephelD
Vanaso / disc losts ( <a href="https://www.gephebase.org/search-criteria?/and+Gene">https://www.gephebase.org/search-criteria?/and+Gene</a> Gephebase=^Vanaso / disc losts^#gephebase-summary-title)	GP00001164	
Published	Entry Status	Main curator

## PHENOTYPIC CHANGE

	Trait Category
Behavior ( <a href="https://www.gephebase.org/search-criteria?/and+Trait">https://www.gephebase.org/search-criteria?/and+Trait</a> Category=^Behavior^#gephebase-summary-title)	Trait
Olfactory behavior ( <a href="https://www.gephebase.org/search-criteria?/and+Trait=^Olfactory">https://www.gephebase.org/search-criteria?/and+Trait=^Olfactory</a> behavior^#gephebase-summary-title)	Trait State in Taxon A
Drosophila melanogaster - Oregon	Trait State in Taxon B
Drosophila melanogaster - 2b	Ancestral State
Data not curated	Taxonomic Status

Intraspecific (<https://www.gephebase.org/search-criteria?/and+Taxonomic>  
Status=^Intraspecific^#gephebase-summary-title)

Taxon A	Latin Name	Taxon B	Latin Name
Drosophila melanogaster ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Drosophila+melanogaster^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Drosophila+melanogaster^#gephebase-summary-title</a> )		Drosophila melanogaster ( <a href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Drosophila+melanogaster^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Drosophila+melanogaster^#gephebase-summary-title</a> )	
fruit fly		fruit fly	
Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster		Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster	
species	Rank	species	Rank
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Ephydriodea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup	Lineage	cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Ephydriodea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup	Lineage
melanogaster subgroup () - (Rank: species subgroup) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 32351">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 32351</a> )	Parent	melanogaster subgroup () - (Rank: species subgroup) ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 32351">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 32351</a> )	Parent
7227 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 7227">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 7227</a> )	NCBI Taxonomy ID	7227 ( <a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 7227">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 7227</a> )	NCBI Taxonomy ID
Yes	is Taxon A an Infraspecies?	Yes	is Taxon B an Infraspecies?
Drosophila melanogaster - Oregon	Taxon A Description	Drosophila melanogaster - 2b	Taxon B Description

## GENOTYPIC CHANGE

	Generic Gene Name	UniProtKB Drosophila melanogaster
dlt		
CG1977; CG32315; Dlt; DLT; Dmel\CG32315; dre1; l(3)04276; l(3)62Ba; l(3)dre1; Van; VA	Synonyms	
-	String	
-	Sequence Similarities	
-	GO - Molecular Function	
-	GO - Biological Process	
GO:0042048 : olfactory behavior ( <a href="https://www.ebi.ac.uk/QuickGO/term/GO:0042048">https://www.ebi.ac.uk/QuickGO/term/GO:0042048</a> )		
GO:0042127 : regulation of cell proliferation		

(<https://www.ebi.ac.uk/QuickGO/term/GO:0042127>)  
GO:0007560 : imaginal disc morphogenesis  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007560>)  
GO:0001738 : morphogenesis of a polarized epithelium  
(<https://www.ebi.ac.uk/QuickGO/term/GO:0001738>)

#### GO - Cellular Component

GO:0005737 : cytoplasm (<https://www.ebi.ac.uk/QuickGO/term/GO:0005737>)

Presumptive Null

Unknown (<https://www.gephebase.org/search-criteria?/and+Presumptive+Null=^Unknown^#gephebase-summary-title>)

Molecular Type

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

Aberration Type

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

Molecular Details of the Mutation

unknown

Experimental Evidence

Linkage Mapping (<https://www.gephebase.org/search-criteria?/and+Experimental+Evidence=^Linkage+Mapping^#gephebase-summary-title>)

Main Reference

Vanaso is a candidate quantitative trait gene for Drosophila olfactory behavior. (2002) (<https://pubmed.ncbi.nlm.nih.gov/12454076>)

Authors

Fanara JJ; Robinson KO; Rollmann SM; Anholt RR; Mackay TF

Abstract

Most animals depend on olfaction for survival and procreation. Odor-guided behavior is a quantitative trait, with phenotypic variation due to multiple segregating quantitative trait loci (QTL). Despite its profound biological importance, the genetic basis of naturally occurring variation in olfactory behavior remains unexplored. Here, we mapped a single Drosophila QTL affecting variation in avoidance response to benzaldehyde, using a population of recombinant inbred lines. Deficiency complementation mapping resolved this region into one female- and one male-specific QTL. Subsequent quantitative complementation tests to all available mutations of positional candidate genes showed that the female-specific QTL failed to complement a P-element insertional mutation, I(3)04276. The P-element insertion was in the intron of a novel gene, Vanaso, which contains a putative guanylate binding protein domain, is highly polymorphic, and is expressed in the third antennal segment, the major olfactory organ of Drosophila. No expression was detected in the fly brain, suggesting that Vanaso plays a role in peripheral chemosensory processes rather than in central integration of olfactory information. QTL mapping followed by quantitative complementation tests to deficiencies and mutations is an effective strategy for gene discovery that allows characterization of effects of recessive lethal genes on adult phenotypes and here enabled identification of a candidate gene that contributes to sex-specific quantitative variation in olfactory behavior.

Additional References

## RELATED GEPHE

### Related Genes

No matches found.

### Related Haplotypes

No matches found.

## EXTERNAL LINKS

## COMMENTS