

GEPHE SUMMARY

	Gephebase Gene		GepheID
Dopa oxidase-3 (Dox-3) (https://www.gephebase.org/search-criteria?/and+Gene)		GP00002000	
Gephebase="Dopa oxidase-3 (Dox-3)"#gephebase-summary-title)			Main curator
	Entry Status	Courtier	
Published			

PHENOTYPIC CHANGE

	Trait Category		
Physiology (https://www.gephebase.org/search-criteria?/and+Trait)			
Category="Physiology"#gephebase-summary-title)			
	Trait		
Enzymatic activity (https://www.gephebase.org/search-criteria?/and+Trait)			
activity="Enzymatic activity"#gephebase-summary-title)			
	Trait State in Taxon A		
Drosophila melanogaster			
	Trait State in Taxon B		
Drosophila melanogaster - greatly reduced phenoloxidase activity			
	Ancestral State		
Taxon A			
	Taxonomic Status		
Intraspecific (https://www.gephebase.org/search-criteria?/and+Taxonomic)			
Status="Intraspecific"#gephebase-summary-title)			
	Taxon A	Taxon B	
	Latin Name		Latin Name
Drosophila melanogaster		Drosophila melanogaster	
(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)	
	Common Name		Common Name
fruit fly		fruit fly	
	Synonyms		Synonyms
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	
	Rank		Rank
species		species	
	Lineage		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; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup		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; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup	
	Parent		Parent
melanogaster subgroup () - (Rank: species subgroup)		melanogaster subgroup () - (Rank: species subgroup)	
(https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351)		(https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351)	
	NCBI Taxonomy ID		NCBI Taxonomy ID
7227		7227	
(https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227)		(https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227)	
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?
No		No	

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB
-		0	
	Synonyms		GenebankID or UniProtKB
-		0	
	String		
-			
	Sequence Similarities		
-			
	GO - Molecular Function		
-			
	GO - Biological Process		
-			
	GO - Cellular Component		
-			

Presumptive Null

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))

Molecular Type

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

Molecular Details of the Mutation

Exact causing mutation(s) unknown

Experimental Evidence

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))

Main Reference

Genetic variants affecting phenoloxidase activity in *Drosophila melanogaster*. (1997) (<https://pubmed.ncbi.nlm.nih.gov/9238517>)

Authors

Asada N

Abstract

In *Drosophila melanogaster*, two new variants affecting the activity of phenoloxidase were found in natural populations at Gomel in Belorussia and at Krasnodar in Russia. Prophenoloxidases, A1 and A3, in these variants had the same mobilities on native electrophoresis as the wild type. However, enzymatic activities in their activated states were much lower than in the wild type, whereas the existence of prophenoloxidase proteins was demonstrated. Egg-to-adult and relative viabilities in the variants did not decrease at temperature between 18 and 29 degrees C. Genetic analyses indicated that the genes showing the phenotype of variants are new alleles of Mox and Dox-3 on the second chromosome.

Additional References

RELATED GEPHE

Related Genes

3 (glycerol-3-phosphate dehydrogenase (Gpdh), prophenoloxidase 1 (PPO1), tryptophan phenylalanine hydroxylase) ([https://www.gephebase.org/search-criteria?/or+Taxon ID=^7227^/and+Trait=Enzymatic activity/and+groupHaplotypes=true#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Taxon+ID=^7227^/and+Trait=Enzymatic+activity/and+groupHaplotypes=true#gephebase-summary-title))

Related Haplotypes

No matches found.

EXTERNAL LINKS

COMMENTS

No UniProtKB entry for this gene - <http://flybase.org/reports/FBal0066127>