

GEPHE SUMMARY

smooth (https://www.gephebase.org/search-criteria?/and+GeneGephebase=^smooth^#gephebase-summary-title)	Gephebase Gene	GP00001996	GepheID
Published	Entry Status	Courtier	Main curator

PHENOTYPIC CHANGE

Morphology (https://www.gephebase.org/search-criteria?/and+TraitCategory=^Morphology^#gephebase-summary-title)	Trait Category		
Bristle number (abdomen) (https://www.gephebase.org/search-criteria?/and+Trait=^Bristle number (abdomen)^#gephebase-summary-title)	Trait		
Drosophila melanogaster	Trait State in Taxon A		
Drosophila melanogaster - fewer bristles on the ventral abdomen - allele sm2	Trait State in Taxon B		
Taxon A	Ancestral State		
Intraspecific (https://www.gephebase.org/search-criteria?/and+TaxonomicStatus=^Intraspecific^#gephebase-summary-title)	Taxonomic Status		
		Taxon A	Taxon B
Drosophila melanogaster (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Drosophila melanogaster^#gephebase-summary-title)	Latin Name	Drosophila melanogaster (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Drosophila melanogaster^#gephebase-summary-title)	Latin Name
fruit fly	Common Name	fruit fly	Common Name
Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster	Synonyms	Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster	Synonyms
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; Ephydroidea; 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; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup	Lineage
melanogaster subgroup () - (Rank: species subgroup) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351)	Parent	melanogaster subgroup () - (Rank: species subgroup) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351)	Parent
7227 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227)	NCBI Taxonomy ID	7227 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227)	NCBI Taxonomy ID
No	is Taxon A an Intraspecies?	No	is Taxon B an Intraspecies?

GENOTYPIC CHANGE

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

exact causing mutation(s) unknown

Experimental Evidence

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

Main Reference

Genetic and molecular analysis of smooth, a quantitative trait locus affecting bristle number in *Drosophila melanogaster*. (1997) (<https://pubmed.ncbi.nlm.nih.gov/9178010>)

Authors

zur Lage P; Shrimpton AD; Flavell AJ; Mackay TF; Brown AJ

Abstract

A semi-lethal, sterile allele of the smooth locus (2-91.5), sm3, was discovered in an artificial selection line for low abdominal bristle number that had been started from a P-M dysgenic cross. The fitness effects and extremely low bristle number phenotype of the allele could not be separated by recombination from a P-element insertion at cytological location 56E, and precise excision of the P-element at this site was associated with reversion to wild type. The smooth gene was cloned using the P-element insertion as a tag. The gene encodes a 2.6-kb transcript derived from 10 exons and covers a genomic region of at least 80 kb. The *Drosophila* smooth gene shares substantial sequence identity with a group of RNA binding proteins, with the closest relationship being to the human heterogeneous nuclear ribonucleoprotein L gene. The smooth gene is by definition an abdominal bristle number quantitative trait locus, but further work is required to discern whether naturally occurring allelic variation at this locus is a source of genetic variation for abdominal bristle number in natural populations.

Additional References

RELATED GEPHE

Related Genes

7 (achaete-scute complex, Delta, Dopa-decarboxylase, hairy (h), poils au dos (pad), scabrous, Catecholamines up) (<https://www.gephebase.org/search-criteria?/or+Taxon ID=^7227^/and+Trait=Bristle number/and+groupHaplotypes=true#gephebase-summary-title>)

Related Haplotypes

No matches found.

EXTERNAL LINKS

COMMENTS

No UniProtKB entry for this protein (Dmel\sm, CG9218, FBgn0003435) - <http://flybase.org/reports/FBal0015721>