GEPHE SUMMARY

Gephebase Gene

scabrous (https://www.gephebase.org/search-criteria?/and+Gene Gephebase=^scabrous^#gephebase-summary-title)

Entry Status

Published

GepheID

GP00001025

Main curator

Martin

PHENOTYPIC CHANGE

Trait Category

Morphology (https://www.gephebase.org/search-criteria?/and+Trait Category=^Morphology^#gephebase-summary-title)

Trait

Bristle number (thorax) (https://www.gephebase.org/search-criteria?/and+Trait=^Bristle number (thorax)^#gephebase-summary-title)

Trait State in Taxon A

Drosophila melanogaster

Trait State in Taxon B

Drosophila melanogaster

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

Drosophila melanogaster (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Drosophila melanogaster^#gephebase-summary-title)

Common Name

fruit fly

Synonyms

Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster

Rank

species

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

Parent

melanogaster subgroup () - (Rank: species subgroup) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 32351)

NCBI Taxonomy ID

7227 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 7227)

is Taxon A an Infraspecies?

No

Taxon B

Latin Name

Drosophila melanogaster (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Drosophila melanogaster^#gephebase-summary-title)

Common Name

fruit fly

Synonyms

Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster

Rank

species

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

Parent

melanogaster subgroup () - (Rank: species subgroup) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 32351)

NCBI Taxonomy ID

7227 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 7227)

is Taxon B an Infraspecies?

No

GENOTYPIC CHANGE

Generic Gene Name

sca

Synonyms

AAA28880; AAF58455; anon-EST:Liang-38; CG17579; clone 38; Dmel\CG17579; FBpp0086968; FBpp0086969; mAb sca1; Sca; Sca1b

String

7227.FBpp0086969 (http://string-db.org/newstring_cgi/show_network_section.pl?identifier= 7227.FBpp0086969)

Sequence Similarities

-

GO - Molecular Function

-

GO - Biological Process

GO:0008407 : chaeta morphogenesis

UniProtKB Drosophila melanogaster

P21520 (http://www.uniprot.org/uniprot/P21520)

GenebankID or UniProtKB

AE013599 (https://www.ncbi.nlm.nih.gov/nuccore/AE013599)

(https://www.ebi.ac.uk/QuickGO/term/GO:0008407)
GO:0007399 : nervous system development
(https://www.ebi.ac.uk/QuickGO/term/GO:0007399)
GO:0007219 : Notch signaling pathway
(https://www.ebi.ac.uk/QuickGO/term/GO:0007219)
GO:0048749 : compound eye development
(https://www.ebi.ac.uk/QuickGO/term/GO:0048749)
GO:0046331 : lateral inhibition (https://www.ebi.ac.uk/QuickGO/term/GO:0046331)
GO:0007460 : R8 cell fate commitment
(https://www.ebi.ac.uk/QuickGO/term/GO:0007460)
GO:0045468 : regulation of R8 cell spacing in compound eye
(https://www.ebi.ac.uk/QuickGO/term/GO:0045468)
GO:0008587 : imaginal disc-derived wing margin morphogenesis
(https://www.ebi.ac.uk/QuickGO/term/GO:0008587)
GO:0016318 : ommatidial rotation (https://www.ebi.ac.uk/QuickGO/term/GO:0016318)
GO:0016321 : female meiosis chromosome segregation
(https://www.ebi.ac.uk/QuickGO/term/GO:0016321)
GO:0097305 : response to alcohol (https://www.ebi.ac.uk/QuickGO/term/GO:0097305)

GO - Cellular Component

GO:0005576 : extracellular region (https://www.ebi.ac.uk/QuickGO/term/GO:0005576)
GO:0005770 : late endosome (https://www.ebi.ac.uk/QuickGO/term/GO:0005770)

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; but different sites than for abdomen association

Experimental Evidence

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

Main Reference

Naturally occurring variation in bristle number and DNA polymorphisms at the scabrous locus of Drosophila melanogaster. (1994) (https://pubmed.ncbi.nlm.nih.gov/7992053)

Authors

Lai C; Lyman RF; Long AD; Langley CH; Mackay TF

Abstract

The association between quantitative genetic variation in bristle number and molecular variation at a candidate neurogenic locus, scabrous, was examined in Drosophila melanogaster. Approximately 32 percent of the genetic variation in abdominal bristle number (21 percent for sternopleural bristle number) among 47 second chromosomes from a natural population was correlated with DNA sequence polymorphisms at this locus. Several polymorphic sites associated with large phenotypic effects occurred at intermediate frequency. Quantitative genetic variation in natural populations caused by alleles that have large effects at a few loci and that segregate at intermediate frequencies conflicts with the classical infinitesimal model of the genetic basis of quantitative variation.

Additional References

RELATED GEPHE

Related Genes

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

Related Haplotypes

1 (https://www.gephebase.org/search-criteria?/or+Gene Gephebase=^scabrous^/and+Taxon ID=^7227^/or+Gene Gephebase=^scabrous^/and+Taxon ID=^7227^#gephebase-summary-title)

EXTERNAL LINKS

COMMENTS