

	Gephebase Gene	GepheID
poils au dos (pad) (<a +poils+au+dos+(pad)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+poils+au+dos+(pad)+"#gephebase-summary-title)	GP00000915	
	Entry Status	Martin
Published		

Morphology (https://www.gephebase.org/search-criteria?/and+Trait+Category=~Morphology~#gephebase-summary-title)		Trait Category	
Bristle number (thorax) (https://www.gephebase.org/search-criteria?/and+Trait=~Bristle+number+(thorax)~#gephebase-summary-title)		Trait	
Drosophila melanogaster		Trait State in Taxon A	
Drosophila melanogaster - Marrakesh		Trait State in Taxon B	
Taxon A		Ancestral State	
Intraspecific (https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=~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)		Drosophila melanogaster (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=~Drosophila+melanogaster~#gephebase-summary-title)	
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		species	
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	
melanogaster subgroup () - (Rank: species subgroup) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 32351)		melanogaster subgroup () - (Rank: species subgroup) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 32351)	
NCBI Taxonomy ID		NCBI Taxonomy ID	
7227 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 7227)		7227 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 7227)	
is Taxon A an Intraspecies?		is Taxon B an Intraspecies?	
No		Yes	
		Taxon B Description	
		Drosophila melanoqaster - Marrakesh	

pad	Generic Gene Name	UniProtKB Drosophila melanogaster
	Synonyms	Q9VEW6 (http://www.uniprot.org/uniprot/Q9VEW6)
CG10309; Dmel\CG10309; Dmel_CG10309	String	BT022205 (https://www.ncbi.nlm.nih.gov/nuccore/BT022205)
7227.FBpp0290729 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier= 7227.FBpp0290729)	Sequence Similarities	
-	GO - Molecular Function	
	GO:0008270 : zinc ion binding (https://www.ebi.ac.uk/QuickGO/term/GO:0008270)	
	GO:0003677 : DNA binding (https://www.ebi.ac.uk/QuickGO/term/GO:0003677)	

GO:0008407 : chaeta morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0008407>)
GO:0000122 : negative regulation of transcription by RNA polymerase II
(<https://www.ebi.ac.uk/QuickGO/term/GO:0000122>)

GO:0005634 : nucleus (<https://www.ebi.ac.uk/QuickGO/term/GO:0005634>)

Presumptive Null

Yes ([#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Presumptive+Null=~Yes))

Molecular Type

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

Aberration Type

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

Deletion Size

10-99 bp

Molecular Details of the Mutation

29bp deletion

Experimental Evidence

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

Main Reference

A major bristle QTL from a selected population of *Drosophila* uncovers the zinc-finger transcription factor *poils-au-dos*, a repressor of *achaete-scute*. (2005)
(<https://pubmed.ncbi.nlm.nih.gov/16216235>)

Authors

Gibert JM; Marcellini S; David JR; Schl  tterer C; Simpson P

Abstract

Traditional screens aiming at identifying genes regulating development have relied on mutagenesis. Here, we describe a new gene involved in bristle development, identified through the use of natural variation and selection. *Drosophila melanogaster* bears a pattern of 11 macrochaetes per heminotum. From a population initially sampled in Marrakech, a strain was selected for an increased number of thoracic macrochaetes. Using recombination and single nucleotide polymorphisms, the factor responsible was mapped to a single locus on the third chromosome, *poils au dos*, that encodes a zinc-finger-ZAD protein. The original, as well as new, presumed null, alleles of *poils au dos*, is associated with ectopic *achaete-scute* expression that results in the additional bristles. This suggests a possible role for *Poils au dos* as a repressor of *achaete* and *scute*. Ectopic expression appears to be independent of the activity of known cis-regulatory enhancer sequences at the *achaete-scute* complex that mediate activation at specific sites on the notum. The target sequences for *Poils au dos* activity were mapped to a 14 kb region around *scute*. In addition, we show that *pad* interacts synergistically with the repressor *hairy* and with *Dpp* signaling in posterior and anterior regions of the notum, respectively.

Additional References

RELATED GEPHE

Related Genes

7 (*achaete-scute* complex, *Delta*, *Dopa-decarboxylase*, *hairy* (h), *scabrous*, *smooth*, *Catecholamines* up) (<https://www.gephebase.org/search-criteria?/or+TaxonID=~7227#/and+Trait=Bristle+number/and+groupHaplotypes=true#gephebase-summary-title>)

Related Haplotypes

No matches found.

EXTERNAL LINKS

COMMENTS

<http://flybase.org/reports/FBa0189942>