

GEPHE SUMMARY

EGFR (https://www.gephebase.org/search-criteria?/and+GeneGephebase=~EGFR~#gephebase-summary-title)		Gephebase Gene	GP00000259	GepheID
Published		Entry Status	Martin	Main curator

PHENOTYPIC CHANGE

Morphology (https://www.gephebase.org/search-criteria?/and+TraitCategory=~Morphology~#gephebase-summary-title)		Trait Category	
Wing shape (length) (https://www.gephebase.org/search-criteria?/and+Trait=~Wing shape (length)~#gephebase-summary-title)		Trait	
Drosophila melanogaster		Trait State in Taxon A	
Drosophila melanogaster		Trait State in Taxon B	
Data not curated		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)		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)	
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)	
No		No	
is Taxon A an Infrappecies?		is Taxon B an Infrappecies?	

GENOTYPIC CHANGE

Egfr		Generic Gene Name	UniProtKB Drosophila melanogaster
C-erb; c-erbB; CG10079; D-Egf; d-egf-r; D-EGFR; degfr; dEgfr; dEGFr; dEGFR; Degfr; DEgfr; DEGFR; dEGFR1; der; Der; DER; DER flb; DER/EGFR; DER/top; DER/torpedo; DER1; Dmel\CG10079; DmHD-33; EC2-4; EFG-R; Egf; Egf-r; EGF-R; egfr; EgfR; EGfr; EGFr; EGFR; EK2-6; El; Elp; Elp-1; Elp-B1; Elp-B1RB1; flb; Flb; HD-33; l(2)05351; l(2)09261; l(2)57DEFa; l(2)57EFa; mor1; top; Top; TOP; top/DER; top/flb; Tor; Torpedo/DER; torpedo/egfr; torpedo/Egfr; Torpedo/Egfr		Synonyms	GenebankID or UniProtKB
7227.FBpp0071571 (http://string-db.org/newstring_cgi/show_network_section.pl?identifier= 7227.FBpp0071571)		String	
Belongs to the protein kinase superfamily. Tyr protein kinase family. EGF receptor subfamily.		Sequence Similarities	

GO - Molecular Function

GO:0004888 : transmembrane signaling receptor activity
(<https://www.ebi.ac.uk/QuickGO/term/GO:0004888>)
GO:0005524 : ATP binding (<https://www.ebi.ac.uk/QuickGO/term/GO:0005524>)
GO:0042802 : identical protein binding
(<https://www.ebi.ac.uk/QuickGO/term/GO:0042802>)
GO:0005006 : epidermal growth factor-activated receptor activity
(<https://www.ebi.ac.uk/QuickGO/term/GO:0005006>)
GO:0004714 : transmembrane receptor protein tyrosine kinase activity
(<https://www.ebi.ac.uk/QuickGO/term/GO:0004714>)

GO - Biological Process

GO:0043066 : negative regulation of apoptotic process
(<https://www.ebi.ac.uk/QuickGO/term/GO:0043066>)
GO:0007422 : peripheral nervous system development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007422>)
GO:0030154 : cell differentiation (<https://www.ebi.ac.uk/QuickGO/term/GO:0030154>)
GO:0048149 : behavioral response to ethanol
(<https://www.ebi.ac.uk/QuickGO/term/GO:0048149>)
GO:0010629 : negative regulation of gene expression
(<https://www.ebi.ac.uk/QuickGO/term/GO:0010629>)
GO:0070374 : positive regulation of ERK1 and ERK2 cascade
(<https://www.ebi.ac.uk/QuickGO/term/GO:0070374>)
GO:0008284 : positive regulation of cell proliferation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0008284>)
GO:0010628 : positive regulation of gene expression
(<https://www.ebi.ac.uk/QuickGO/term/GO:0010628>)
GO:0042327 : positive regulation of phosphorylation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0042327>)
GO:0007455 : eye-antennal disc morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007455>)
GO:0001654 : eye development (<https://www.ebi.ac.uk/QuickGO/term/GO:0001654>)
GO:1903688 : positive regulation of border follicle cell migration
(<https://www.ebi.ac.uk/QuickGO/term/GO:1903688>)
GO:0007298 : border follicle cell migration
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007298>)
GO:0048749 : compound eye development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0048749>)
GO:0030718 : germ-line stem cell population maintenance
(<https://www.ebi.ac.uk/QuickGO/term/GO:0030718>)
GO:0007476 : imaginal disc-derived wing morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007476>)
GO:0008586 : imaginal disc-derived wing vein morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0008586>)
GO:0007474 : imaginal disc-derived wing vein specification
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007474>)
GO:0016330 : second mitotic wave involved in compound eye morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0016330>)
GO:0007479 : leg disc proximal/distal pattern formation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007479>)
GO:0030031 : cell projection assembly
(<https://www.ebi.ac.uk/QuickGO/term/GO:0030031>)
GO:0098609 : cell-cell adhesion (<https://www.ebi.ac.uk/QuickGO/term/GO:0098609>)
GO:0030381 : chorion-containing eggshell pattern formation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0030381>)
GO:0042675 : compound eye cone cell differentiation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0042675>)
GO:0001751 : compound eye photoreceptor cell differentiation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0001751>)
GO:0008340 : determination of adult lifespan
(<https://www.ebi.ac.uk/QuickGO/term/GO:0008340>)
GO:0035225 : determination of genital disc primordium
(<https://www.ebi.ac.uk/QuickGO/term/GO:0035225>)
GO:0048546 : digestive tract morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0048546>)
GO:0046843 : dorsal appendage formation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0046843>)
GO:0007391 : dorsal closure (<https://www.ebi.ac.uk/QuickGO/term/GO:0007391>)
GO:0007395 : dorsal closure, spreading of leading edge cells
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007395>)
GO:0009792 : embryo development ending in birth or egg hatching
(<https://www.ebi.ac.uk/QuickGO/term/GO:0009792>)
GO:0009880 : embryonic pattern specification
(<https://www.ebi.ac.uk/QuickGO/term/GO:0009880>)
GO:0007173 : epidermal growth factor receptor signaling pathway
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007173>)
GO:0061331 : epithelial cell proliferation involved in Malpighian tubule morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0061331>)
GO:0035088 : establishment or maintenance of apical/basal cell polarity

(<https://www.ebi.ac.uk/QuickGO/term/GO:0035088>)
GO:0007390 : germ-band shortening
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007390>)
GO:0008406 : gonad development (<https://www.ebi.ac.uk/QuickGO/term/GO:0008406>)
GO:0007482 : haltere development (<https://www.ebi.ac.uk/QuickGO/term/GO:0007482>)
GO:0003015 : heart process (<https://www.ebi.ac.uk/QuickGO/term/GO:0003015>)
GO:0007444 : imaginal disc development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007444>)
GO:0035160 : maintenance of epithelial integrity, open tracheal system
(<https://www.ebi.ac.uk/QuickGO/term/GO:0035160>)
GO:0007443 : Malpighian tubule morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007443>)
GO:0008071 : maternal determination of dorsal/ventral axis, ovarian follicular epithelium, soma encoded (<https://www.ebi.ac.uk/QuickGO/term/GO:0008071>)
GO:0002009 : morphogenesis of an epithelium
(<https://www.ebi.ac.uk/QuickGO/term/GO:0002009>)
GO:0016333 : morphogenesis of follicular epithelium
(<https://www.ebi.ac.uk/QuickGO/term/GO:0016333>)
GO:2001234 : negative regulation of apoptotic signaling pathway
(<https://www.ebi.ac.uk/QuickGO/term/GO:2001234>)
GO:0046673 : negative regulation of compound eye retinal cell programmed cell death
(<https://www.ebi.ac.uk/QuickGO/term/GO:0046673>)
GO:2000134 : negative regulation of G1/S transition of mitotic cell cycle
(<https://www.ebi.ac.uk/QuickGO/term/GO:2000134>)
GO:0009968 : negative regulation of signal transduction
(<https://www.ebi.ac.uk/QuickGO/term/GO:0009968>)
GO:0022008 : neurogenesis (<https://www.ebi.ac.uk/QuickGO/term/GO:0022008>)
GO:0035310 : notum cell fate specification
(<https://www.ebi.ac.uk/QuickGO/term/GO:0035310>)
GO:0007477 : notum development (<https://www.ebi.ac.uk/QuickGO/term/GO:0007477>)
GO:0001742 : oenocyte differentiation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0001742>)
GO:0008355 : olfactory learning (<https://www.ebi.ac.uk/QuickGO/term/GO:0008355>)
GO:0016318 : ommatidial rotation (<https://www.ebi.ac.uk/QuickGO/term/GO:0016318>)
GO:0007309 : oocyte axis specification
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007309>)
GO:0046530 : photoreceptor cell differentiation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0046530>)
GO:0043703 : photoreceptor cell fate determination
(<https://www.ebi.ac.uk/QuickGO/term/GO:0043703>)
GO:0051781 : positive regulation of cell division
(<https://www.ebi.ac.uk/QuickGO/term/GO:0051781>)
GO:0045572 : positive regulation of imaginal disc growth
(<https://www.ebi.ac.uk/QuickGO/term/GO:0045572>)
GO:0090303 : positive regulation of wound healing
(<https://www.ebi.ac.uk/QuickGO/term/GO:0090303>)
GO:0007431 : salivary gland development
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007431>)
GO:0007367 : segment polarity determination
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007367>)
GO:0035277 : spiracle morphogenesis, open tracheal system
(<https://www.ebi.ac.uk/QuickGO/term/GO:0035277>)
GO:0048865 : stem cell fate commitment
(<https://www.ebi.ac.uk/QuickGO/term/GO:0048865>)
GO:0007426 : tracheal outgrowth, open tracheal system
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007426>)
GO:0035309 : wing and notum subfield formation
(<https://www.ebi.ac.uk/QuickGO/term/GO:0035309>)
GO:0007472 : wing disc morphogenesis
(<https://www.ebi.ac.uk/QuickGO/term/GO:0007472>)

GO - Cellular Component

GO:0005886 : plasma membrane (<https://www.ebi.ac.uk/QuickGO/term/GO:0005886>)
GO:0005737 : cytoplasm (<https://www.ebi.ac.uk/QuickGO/term/GO:0005737>)
GO:0005887 : integral component of plasma membrane
(<https://www.ebi.ac.uk/QuickGO/term/GO:0005887>)
GO:0043235 : receptor complex (<https://www.ebi.ac.uk/QuickGO/term/GO:0043235>)
GO:0009925 : basal plasma membrane
(<https://www.ebi.ac.uk/QuickGO/term/GO:0009925>)

	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)	

Replication of an Egfr-wing shape association in a wild-caught cohort of <i>Drosophila melanogaster</i> . (2005) (https://pubmed.ncbi.nlm.nih.gov/15687273)		Main Reference
Dworkin I; Palsson A; Gibson G		Authors
Linkage disequilibrium mapping has been used extensively in medical and evolutionary genetics to map causal polymorphisms within genes associated with disease status or phenotypic variation for a trait. However, the initial findings of most nonhuman studies have not been replicated in subsequent studies, due in part to false positives, as well as additional factors that can render true positives unreplicable. These factors may be more severe when the initial study is performed using an experimental population of organisms reared under controlled lab conditions. We demonstrate that despite considerable phenotypic differences for wing shape between a lab-reared experimental population and a wild-caught cohort of <i>Drosophila melanogaster</i> , an association between a putative regulatory polymorphism in <i>Egfr</i> and wing shape can be replicated. These results are discussed both within the framework of future association-mapping studies and within the context of the evolutionary dynamics of alleles in populations.		Abstract
Tests for the replication of an association between <i>Egfr</i> and natural variation in <i>Drosophila melanogaster</i> wing morphology. (2005) (https://pubmed.ncbi.nlm.nih.gov/16102176)		Additional References

RELATED GEPHE

No matches found.	Related Genes
No matches found.	Related Haplotypes

EXTERNAL LINKS

COMMENTS