

Gene Snapshots

Gene Snapshots are short, manually curated summaries designed to provide a quick overview of the function of a gene's products. We contacted the Drosophila community for expert knowledge and are very grateful for the large number of responses. The new concise summaries will appear at the top of each gene report, and will be downloadable to use as an aid in genome-wide analyses and screens.

General Information			
Symbol	Dm: Egfr	Species	D. melanogaster
Name	Epidermal growth factor receptor	Annotation symbol	CG11079
Feature type	protein_coding_gene	FlyBase ID	FBgn0003731
Gene Model Status	Current	Stock availability	53 publicly available
Also known as	EGFR, top, fb, Eip, iEGFR, EGF-R, Eip-B1, top/DER, topedogfr, Eip-1		
Gene Snapshot	Epidermal growth factor receptor (Egfr) is the transmembrane tyrosine kinase receptor for signaling ligands in the TGFalpha family (Gurken, Spitz, Vein, and Keren), which utilises the intracellular MAP kinase pathway. Egfr roles include growth regulation, cell survival and developmental patterning. [Date last reviewed: 2016-05-20]		

Available in the FB2016_04 release, July 2016

Video Tutorials

FlyBase now regularly posts video tutorials to help users navigate FlyBase. You can find all our tutorials on our YouTube channel, **FlyBase TV**, which can be accessed from our Help menu. The videos span a wide range of topics and target different audiences. The 'Basic Navigation' series is helpful for new users, while the 'RNA-Seq' series will interest users wanting gene expression information. When a video explains how to use a specific tool, a link is displayed on the page of the tool.

If you have an idea for a new tutorial or if you have comments on the existing videos, please contact us. Please subscribe to **FlyBase TV** to be alerted to newly released videos.

Community Resources

Popular Resource Categories

All Resources	CRISPR	RNAi	Stocks	Model Organism Databases
Antibodies	Images	Neuroscience	Maps	Protocols#

All Resources

An extensive list of useful databases and reagent resources can be found on the pages linked below:

Drosophila Network Resources

- Includes:
- Atlases, Images, and Videos
 - CRISPRs and TALENs
 - Data Repositories
 - Data and Metadata for Drosophila Genomes
 - Gene Expression Databases and Tools

And many more!

FlyBase maintains lists of links to numerous useful web sites organized by category

Protein Domains

Visualization options for protein domains are being added.

In GBrowse:

Browser [Select Tracks](#)

In the section "Aligned Evidence" there is a new option: "Protein domains (PFAM)"

In Gene Reports: coming soon!



A Database of *Drosophila* Genes and Genomes

What's New 2016

Gene2Function Portal

Orthology Data

Human Disease

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Gene Snapshots

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Community Resources

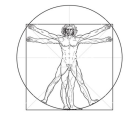
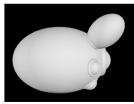
Protein Domains

www.flybase.org

FlyBase is supported by a grant from the National Human Genome Research Institute (NHGRI) at NIH #U41HG000739. Support is also provided by the British Medical Research Council and the Indiana Genomics Initiative.

coming soon

Gene2Function Portal



Gene2Function

G2F allows queries for genes and diseases across human and model organisms, with both simple and advanced searches. Output options will include orthologs, interactions, and functional annotations.

Enter Gene Symbol or Disease name



Breast cancer, PARK7

The initial hit list page provides tabs for selection of "Genes" or "Diseases" and allows filtering by species.

Search results for PARK7

Genes (1)

Diseases (2)

Filter by species

Homo sapiens (Human)

Symbol

Full Name

PARK7

Parkinsonism associated deglycase

Clicking on any gene goes to a table of orthologs, with links.

Kinase substrate: Mkk4



G2F will help in the design of experiments by allowing rapid retrieval of key information for a gene of interest across model organisms, including gene function, protein and genetic interactions, synexpression, and phosphorylation sites.

Enhanced Orthology Data

Orthology data from DIOPT are now searchable through the new **Orthologs** tab of our QuickSearch tool. (DIOPT integrates ortholog predictions for multiple model organisms from multiple individual tools.) Simply select the input species, enter one or more gene symbols/IDs, then select one or more output species:

QuickSearch

Human Disease Expression GO Phenotype References

Simple **Orthologs** Protein Domains Gene Groups Data Class

Input: Species: *D. melanogaster* Gene(s): dpp

Output: MODEL ORGANISMS (via DIOPT) [instead search OrthoDB orthology groups]

- H. sapiens* (Human)
- M. musculus* (House mouse)
- X. tropicalis* (Western clawed frog)
- D. rerio* (Zebrafish)
- D. melanogaster* (Fruit fly)
- C. elegans* (Nematode, roundworm)
- S. cerevisiae* (Brewer's yeast)
- S. pombe* (Fission yeast)

un/check all:

(Where the input species is *D. melanogaster*, you can choose to instead search the OrthoDB-derived orthology set, which includes more closely related species to *D. melanogaster*.)

Typical output is shown below, and includes links to other databases, an alignment between orthologous gene-pairs, and the option to download the results as a TSV file:

Save results as tsv file Help

Search Term: dpp Species: *Drosophila melanogaster* (Fruit fly) Gene: dpp Reports: NCBI FlyBase

Ortholog Gene	Ortholog Gene Reports	Score	Best Score	Best Rev Score	Source	Align	Transgene In Fly
Homo sapiens (Human)							
BMP2	NCBI Ensembl HGNC OMIM	7	Yes	Yes (+)	Compara, Homologous, Inparanoid, Inloose, OrthoDB, Phylo, RoundUp	(+)	
BMP4	NCBI Ensembl HGNC OMIM	6	No	Yes (+)	Compara, Inparanoid, OrthoDB, orthoMCL, Phylo, RoundUp	(+)	Yes
GDF1	NCBI HGNC OMIM	1	No	Yes (+)	Treefam	(+)	
GDF3	NCBI HGNC OMIM	1	No	Yes (+)	Treefam	(+)	
Mus musculus (House mouse)							
Bmp2	NCBI MGI	7	Yes	Yes (+)	Compara, Homologous, Inparanoid, Inloose, OrthoDB, Phylo, RoundUp	(+)	
Bmp4	NCBI MGI	6	No	Yes (+)	Compara, Inparanoid, OrthoDB, orthoMCL, Phylo, RoundUp	(+)	
Gdf1	NCBI MGI	1	No	Yes (+)	Treefam	(+)	
Gdf3	NCBI MGI	1	No	Yes (+)	Treefam	(+)	
Xenopus tropicalis (Western clawed frog)							
Bmp2	NCBI Xenbase	6	Yes	Yes (+)	Compara, Homologous, OMA, OrthoDB, Phylo, RoundUp	(+)	
Bmp4	NCBI Xenbase	4	No	Yes (+)	Compara, OrthoDB, Phylo, RoundUp	(+)	
gdf1	NCBI Xenbase	1	No	Yes (+)	Treefam	(+)	
gdf3	NCBI Xenbase	1	No	Yes (+)	Treefam	(+)	
Danio rerio (Zebrafish)							
Bmp2b	NCBI ZFIN	7	Yes	Yes (+)	Compara, Homologous, Inparanoid, OMA, OrthoDB, Phylo, RoundUp	(+)	
Bmp2a	NCBI ZFIN	3	No	Yes (+)	Compara, Homologous, OrthoDB	(+)	
Bmp4	NCBI ZFIN	3	No	Yes (+)	Compara, OrthoDB, orthoMCL	(+)	
Bmp16	NCBI ZFIN	1	No	Yes (+)	Compara	(+)	
gdf2	NCBI ZFIN	1	No	Yes (+)	Treefam	(+)	
Caenorhabditis elegans (Nematode, roundworm)							
dpp-1	NCBI WormBase	3	Yes	Yes (+)	Compara, Inloose, RoundUp	(+)	
gpp-2	NCBI WormBase	1	No	No (-)	Inparanoid	(+)	
Saccharomyces cerevisiae (Brewer's yeast) - no orthologs found							
Schizosaccharomyces pombe (Fission yeast) - no orthologs found							

A similar presentation of these data is shown in the 'Orthologs' section of our Gene Reports:

- Orthologs
- Human Orthologs (via DIOPT v5.1.1) (4)
- Model Organism Orthologs (via DIOPT v5.1.1) (19)
- Orthologs (via OrthoDB v7) (47)

Human Disease Model Reports

The Human Disease Model Report presents an integrated overview of a specific modeled disease, including ortholog data, links to OMIM and DO, and links to related data in FlyBase.

General Information	
Name	spinocerebellar ataxia 12
Disease Ontology ID	DOID:0050962
OMIM	SPINOCEREBELLAR ATAXIA 12; SCA12

Overview
This report describes spinocerebellar ataxia 12 (SCA12), which is a subtype of spinocerebellar ataxia. The human gene implicated in this disease is PPP2R2B, which encodes a brain-specific regulatory subunit B of protein phosphatase 2. Protein phosphatase 2A (PP2A), a heterotrimeric serine/threonine phosphatase. Expanded (CAG)_n repeats in PPP2R2B are associated with SCA12. There is one high-scoring fly ortholog, **tws**, for which RNAi targeting constructs, alleles caused by insertional mutagenesis, and classical amorphic alleles have been generated.

Disease Summary Information
Related Diseases

Related human health report(s)	polyglutamine diseases, polyQ models, polyglutamine diseases
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Related Specific Diseases
OMIM phenotypic series: Spinocerebellar ataxia

Summary of Physical Interactions (4 groups)
Alleles Reported to Model Human Disease (Disease Ontology)

Genetic Tools, Stocks and Reagents

References (5)

Author Reagent Form

Take a look at the submission form designed for reporting information about strains, cell lines and other reagents used in a publication.

- strain
 - genetic reagent
 - cell line
 - antibody
- Download as spreadsheets at:
flybase.org/journal/reagent_form/
Reagents_template.xlsx
Reagents_example.xlsx