FlyMine

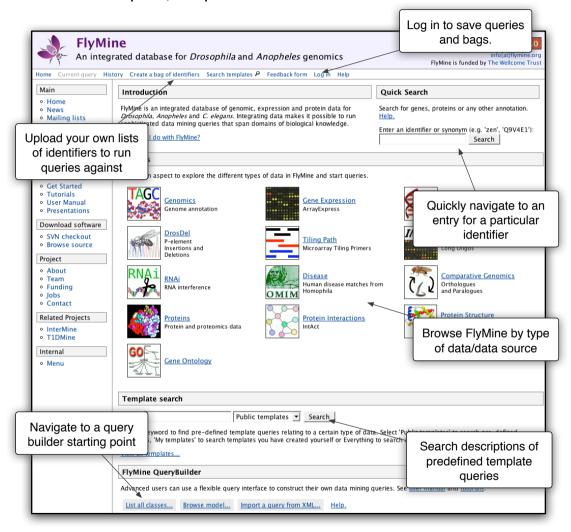## www.flymine.org

An open source integrated database of genomic, expression and protein data for *Drosophila*, *Anopheles* and other insects.

Log in to save queries and bags.

Upload your own lists of identifiers to run queries against

Quickly navigate to an entry for a particular identifier

Browse FlyMine by type of data/data source

Navigate to a query builder starting point

Search descriptions of predefined template queries

What can I do with FlyMine?

FlyMine is an integrated database of genomic, expression and protein data from Drosophila, Anopheles and other insects. As an integrated resource it is possible to run data mining queries that span domains of biological knowledge. Inclusion of InParanoid orthologues allows comparative analysis between organisms.

Quick Search

Enter any identifier, symbol or gene name in the search box on the FlyMine home page to access details pages and integrated tools.

Browse Aspects

FlyMine presents data as 'aspects', with each aspect providing a view of a particular type of data (for example Gene Expression or Protein Interactions). Use the aspect icons on the FlyMine home page to run a predefined template query or to build your own query (see below).

Run Template Queries

Dozens of useful queries have been predefined. These range from simple queries to retrieve a particular type of data to more complex queries that span the different types of data. Find lists of template queries on each aspect page or use the Template Search box on the home page and in the top menu.

Use the FlyMine QueryBuilder

Advanced users can use a flexible query interface to construct their own data mining queries across the multiple integrated data sources, to modify existing template queries or to create new template queries. Access the FlyMine QueryBuilder via the home page or choose a query starting point on an aspect page.

Operate on Lists

All queries in FlyMine can be performed on lists (or 'bags') that you create yourself. Bags can be created by typing or pasting in a list of identifiers, or uploading a file containing the list. Data from previous queries can also be saved into a bag using the boxes displayed underneath the query results. Saved bags of data can be used to constrain new queries, perform logical operations and can be exported.

Save Queries

You can save your bags, queries and templates between sessions by creating an account using the 'Log in' box in the top menu on every page.
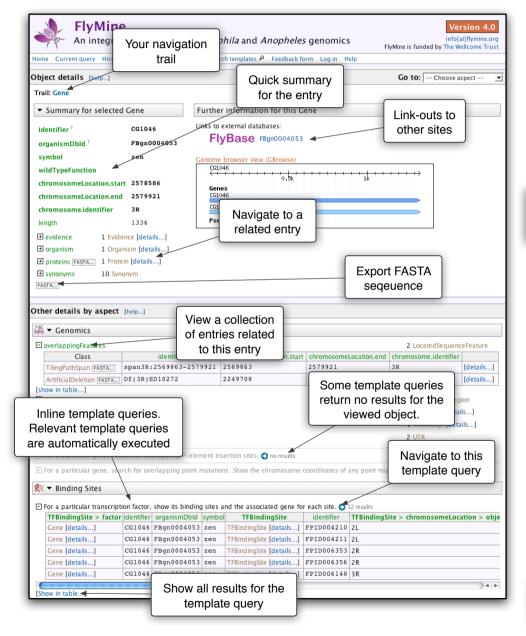

FlyMine data sources include:

- *D. melanogaster* and *D. pseudoobscura* genome annotation - FlyBase
- *A. gambiae* and *A. mellifera* genome annotation - Ensembl
- InParanoid orthologues between multiple organisms
- UniProt protein data for multiple organisms
- Protein-protein interactions (multiple experiments) for *D. melanogaster* and *C. elegans* - IntAct
- Protein Family and Domain data for *D. melanogaster*, *A. gambiae* and *C. elegans* - InterPro
- *D. melanogaster* protein domain 3-D structure predictions - Kenji Mizuguchi, University of Cambridge

- RNAi phenotypes for *C. elegans* genes - WormBase
- The Gene Ontology
- GO annotations for *D. melanogaster*, *A. gambiae*, *C. elegans*, *A. mellifera* and other organisms
- FlyReg DNase I footprints for *D. melanogaster*
- Microarray gene expression data, including Arbeitman et al (2002) *D. melanogaster* time course experiment
- *D. melanogaster* P-element insertion and deletion locations - DrosDel
- Homophila human disease to *Drosophila* gene data set
- INDAC microarray oligo set for *D. melanogaster* - INDAC Consortium
- *D. melanogaster* whole genome tiling amplimer set

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FlyMine details page

For every FlyMine database entry there is a details page. Below is an example for the zen gene. A summary of the entry is provided at the top of the page and further details are grouped into aspects. You can navigate to other, related entries and quickly view results of relevant template queries.

FlyMine QueryBuilder

Advanced users can use the QueryBuilder to construct their own queries, customise existing template queries or create new template queries. Access the FlyMine QueryBuilder via the FlyMine home page or choose a query starting point on an aspect page.

Callouts (details page):
- Your navigation trail
- Quick summary for the entry
- Link-outs to other sites
- Navigate to a related entry
- Export FASTA seqeuence
- View a collection of entries related to this entry
- Some template queries return no results for the viewed object.
- Inline template queries. Relevant template queries are automatically executed
- Navigate to this template query
- Show all results for the template query

Callouts (QueryBuilder):
- Quickly move to a different aspect
- Constrain an attribute
- Remove constraint
- Edit existing constraint
- After clicking CONSTRAIN to the left or an edit icon to the right, constraint settings are displayed here
- Edit the logic between constraints
- Clicking SHOW will add an attribute to the output table
- Click the disclosure boxes to navigate down into the model
- Export your query to share with others
- Save a query to your profile
- Remove attribute from the output table
- Click and drag (on the blue background) to reorder the output columns