

Anatomy/Cell Type:

**Frequently Used GAL4 Drivers table** 

# Finding GAL4 Drivers in FlyBase

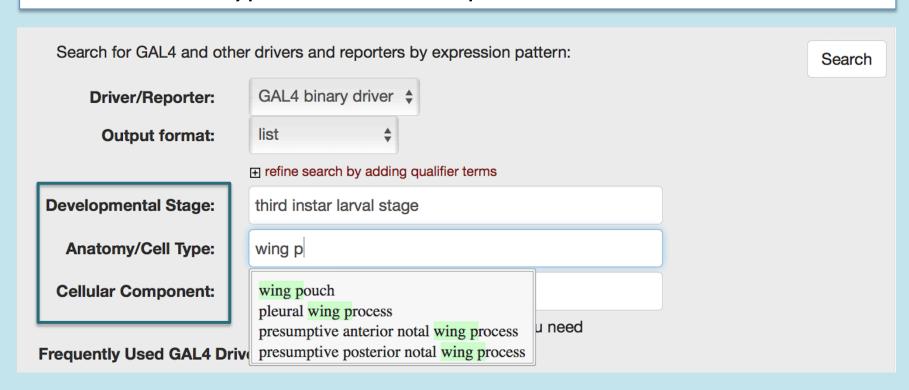
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# The GAL4 etc tab allows searches for binary drivers, and for non-binary reporters, by temporal-spatial expression pattern. This tab uses the same strategies as the Expression tab, and similarly searches expression statements curated from the literature. QuickSearch Human Disease GAL4 etc Expression Phenotype References Search FlyBase Orthologs Protein Domains Gene Groups GO Data Class Search for GAL4 and other drivers and reporters by expression pattern: Output format: VGAL4 binary driver LexA binary driver lacZ reporter GFP reporter GFP reporter e.g., third instar larval stage

The Driver/Reporter menu currently supports five options: GAL4, QF, and LexA binary drivers, and lacZ and GFP reporters. You can search for one type of driver or reporter at a time.

Fill only as many fields as you need

e.g., neuromuscular junction



Expression pattern searches use FlyBase stage and anatomy controlled vocabulary (CV) terms, and feature coordinated autocomplete. Terms are suggested as you type, and are constrained by terms in other boxes. You can change the stringency of search by using a broader or more specific term, or by not filling all boxes. You can also search with a synonym to an anatomy CV term, but autocomplete will not recognize it.

Search for GAL4 and other	Search						
Driver/Reporter:	GAL4 binary driver \$						
Output format:	√integrated table listng qualifier terms						
Developmental Stage:	e.g., third instar larval stage						
Anatomy/Cell Type:	e.g., neuron						
Cellular Component:	e.g., neuromuscular junction						
Fill only as many fields as you need							
Frequently Used GAL4 Drivers table							

The **GAL4 etc** tab has two output formats. **List** displays search results in a standard FlyBase 2.0 faceted hit-list consisting of alleles, insertions, transgenic constructs, and stocks. **Integrated Table** displays results in a customized table that highlights the relationships between these data types.

### Results: List view



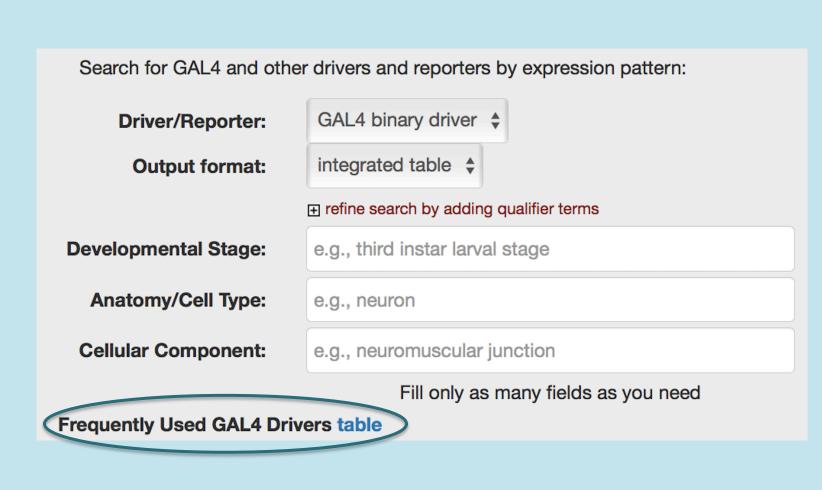
The **List** view hit-list includes four data types: alleles, insertions, transgenic constructs, and stocks. Filtering the hit-list to a single data type allows you to further convert the results to another data type, export to a file or to another FlyBase tool, or analyze the results in a data type specific manner. The filtered list can also be viewed as a standard hit-list table; please note that this is not the same as the **Integrated Table** described below.

### Results: Integrated Table view

Query: GAL4   wing pouch   third instar larval stage								
Group #	Relevant Expression Statements	Allele	Construct	Insertion	Stock			
1	wing pouch third instar larval stage wandering third instar larval stage	Scer\GAL4[32B]	P{GawB}	P{GawB}32B	FBst0001782 FBst0305171			
2	wing pouch third instar larval stage wandering third instar larval stage late third instar larval stage	Scer\GAL4[C833]	P{GawB}	P{GawB}C833	FBst0006988			
3	wing pouch third instar larval stage	Scer\GAL4[GMR11F02]	P{GMR11F02-GAL4}		FBst0049828			
4	wing pouch third instar larval stage wandering third instar larval stage late third instar larval stage	Scer\GAL4[c784]	P{GawB}	P{GawB}c784	FBst0006985			
5	wing pouch third instar larval stage late third instar larval stage	Scer\GAL4[T98]	P{GawB}	P{GawB}T98	FBst0006996 FBst0313637			
6	wing pouch third instar larval stage	Scer\GAL4[Bx-MS1096]	P{GawB}	P{GawB}Bx[MS1096]	FBst0008860 FBst0025706 FBst0030806 FBst0067039			

The Integrated Table view is designed to display the relationships between alleles, insertions, transgenic constructs, and stocks. For example, the allele Scer\GAL4<sup>32B</sup> is caused by a specific insertion, P{GawB}32B, of the enhancer trap construct P{GawB}, and has two stocks. Hits that are associated with stocks available from a public stock center are automatically pre-sorted to the top of the table. The search used to generate the hit-list is displayed at the top. Each entry in the table includes the controlled vocabulary terms that resulted in that hit. These terms may not be the exact CV terms used in search; the term may have a part\_of or is\_a relationship to the search term; for example, wandering third instar larval stage is part\_of third instar larval stage. Please note that the listed CV terms do not describe the full curated expression pattern. The full pattern is displayed in the Expression section of allele, insertion, and transgenic construct reports.

## The Frequently Used GAL4 Drivers table



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Home Tools Downloads Links Community Species About Help Archives  Please note: This table does not describe the entire expression pattern of each GAL4 driver. You can find the complete curated pattern on the allele, insertion or construct report of each driver.  © Export TSV										
Allele	Insertions / Constructs	Assoc. gene	Common terms	Major tissue	Major stage	Description	# Stocks	# Refs		
Scer\GAL4elav.Switch.PO	P{elav-Switch.O}	elav	pan-neuronal	neuron	larval stage adult stage	Drives mifepristone-inducible expression pan- neuronally at larval and adult stages.	3	132		
Scer\GAL4 <sup>en-e16E</sup>	P{en2.4-GAL4}e16E P{en2.4-GAL4}	en	posterior compartments, segment polarity pattern	organism   segment polarity expression pattern imaginal disc posterior compartment	embryonic stage larval stage	Drives expression throughout development in posterior compartments; marker for segment polarity expression pattern in embryos.	11	656		
Scer\GAL4 <sup>esg-NP5130</sup>	P{GawB}NP5130 P{GawB}	esg		histoblast intestinal stem cell histoblast nest enteroblast	larval stage adult stage P-stage	Drives expression in histoblasts and histoblast nests, in enteroblasts, and in intestinal stem cells.	5	64		
Scer\GAL4eve.RN2	P{eve-GAL4.RN2}	eve	MNISN-Is	A1-7 dorsal motor neuron aCC neuron pCC neuron RP2 motor neuron	embryonic stage adult stage larval stage	Drives expression in a subset of motor neurons at all stages.	6	31		

In the **Frequently Used GAL4 Drivers** table, we have compiled information for 200 GAL4 drivers, including the 150 stocks most ordered from the Bloomington Drosophila Stock Center and those drivers most frequently used in publications. This table can be accessed via a link on the **GAL4 etc** QuickSearch tab, and is also available as a downloadable file. The table can be sorted by column for most columns. Links to publications and stocks are included in this table.

The first two columns list the GAL4 drivers by allele, and by insertion or transgenic construct. We include allele designations to draw attention to relationship between the more user-familiar insertion/construct symbols and their associated alleles. FlyBase uses allele symbols in many contexts, including in text descriptions of expression patterns, phenotypes, and genetic interactions.

We display expression pattern information in several formats: FlyBase Anatomy CV terms, common terms often used in literature, short text descriptions, major developmental stage, and genes for those drivers that reflect a gene expression pattern. Term columns are can be sorted, so drivers with similar expression patterns can be more easily compared.

The expression data has been condensed to

emphasize how these drivers are used as experimental tools. Full curated expression patterns can be found on linked allele, insertion or construct reports.

We'd like to enhance this resource with user-contributed images of GAL4 expression patterns. If you'd like to contribute an image, please contact us at GAL4@morgan.harvard.edu, or talk to a curator.