What's New in FlyBase. EDRC2019

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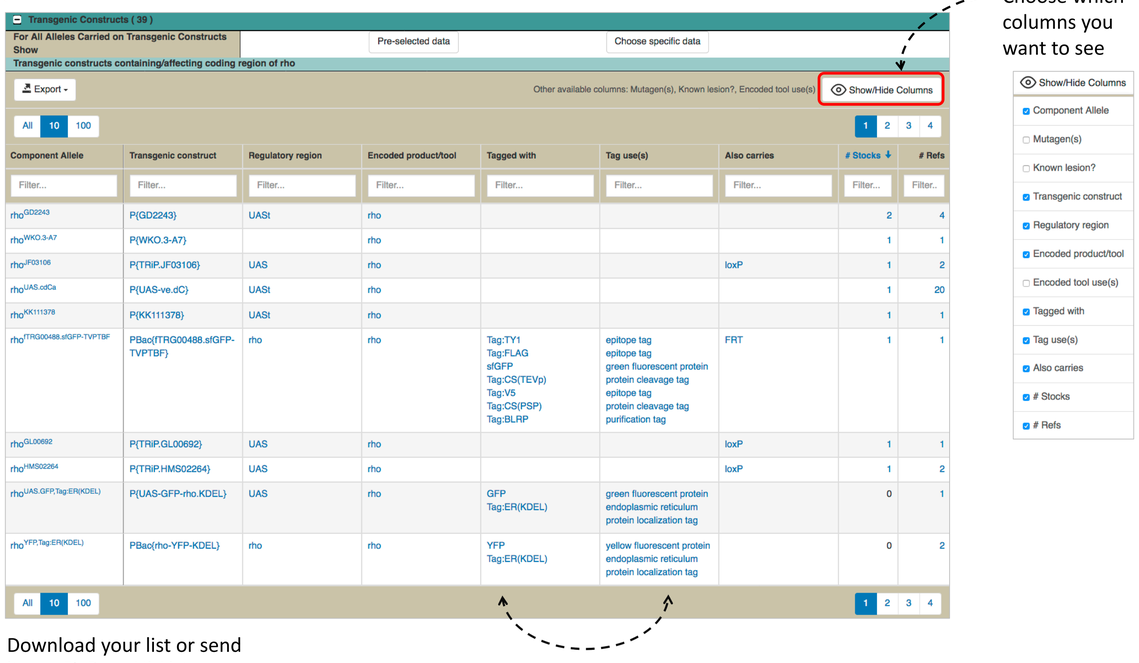
Finding Genetic Reagents

We have made changes to the **Alleles, Insertions, and Transgenic Constructs** section of our **Gene Reports** and to the **QuickSearch** "**GAL4 etc**" tab to make it easier for you to find alleles and transgenes which might be useful for your experiments. In both cases, we have added experimental tool information and have introduced "dynamic" tables which allow you to filter and sort these genetic reagents to find the ones with the particular characteristics that you need.

Gene Reports

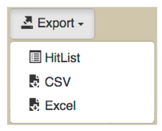
NEW New "dynamic" tables in **Alleles, Insertions, and Transgenic Construct**s section

Choose which columns you want to see



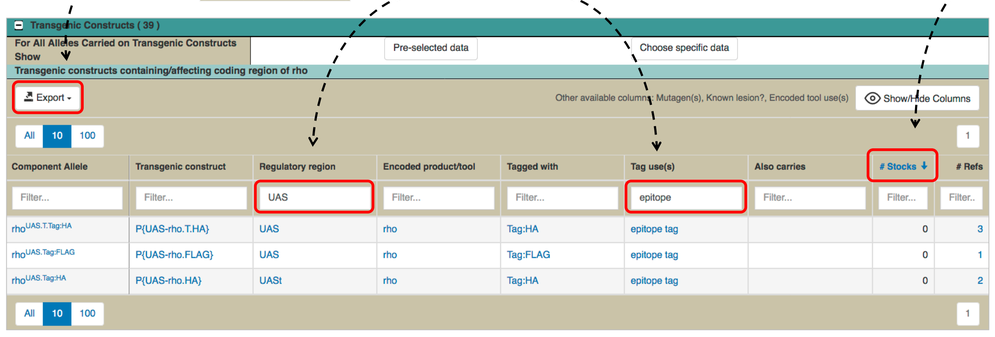
Re-order columns by dragging

Download your list or send it to a FlyBase HitList



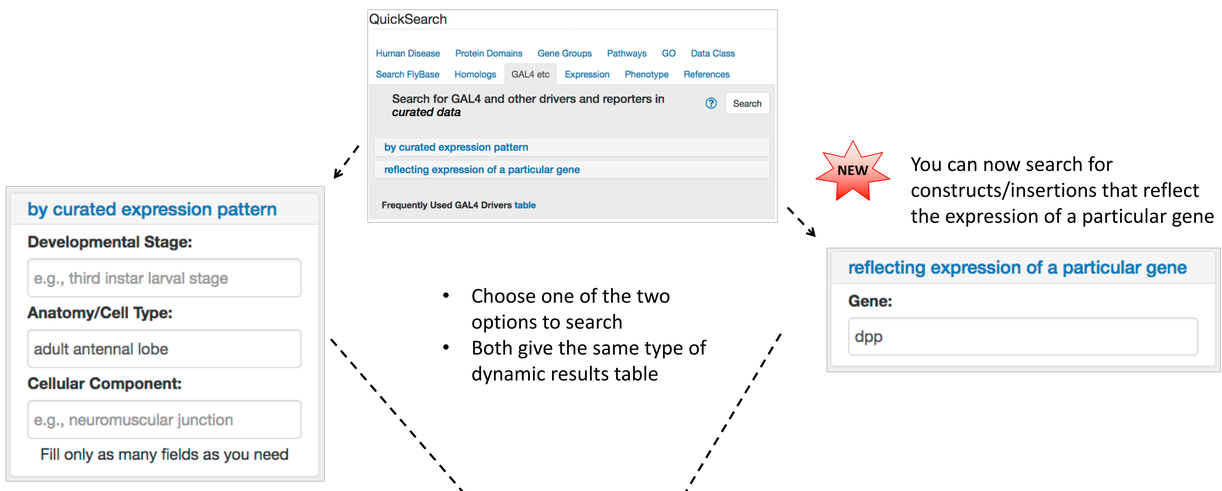
Use the filter boxes to narrow down the list to just the reagents you are interested in

Click on heading to sort by that column



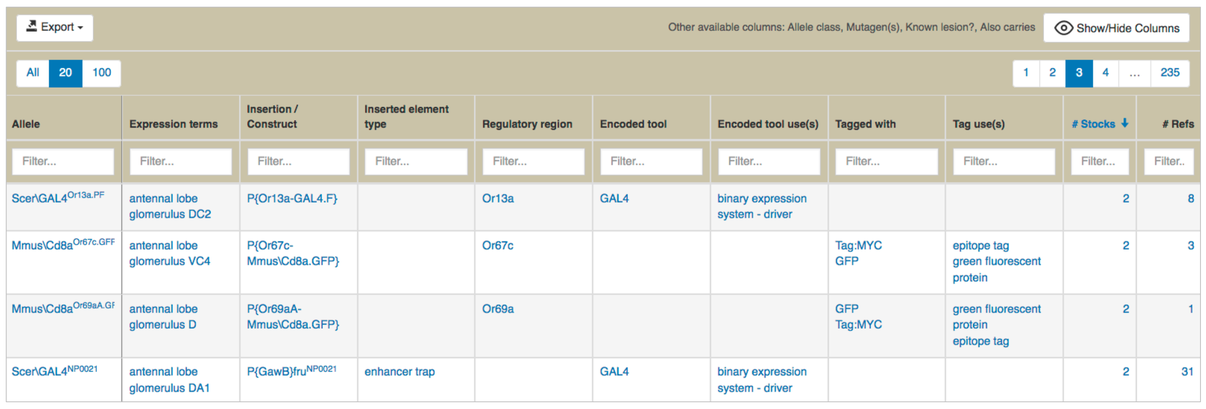
QuickSearch "GAL4 etc" tab

NEW Search has been expanded to include **ANY** transgenic construct/insertion that encodes an experimental tool, not just a limited set of drivers/reporters



NEW You can now search for constructs/insertions that reflect the expression of a particular gene

- Choose one of the two options to search
- Both give the same type of dynamic results table



- By default the results show all types of experimental tool
- Use the **Filter** boxes to narrow down the results

Human Disease Associations on Gene Reports

Potential Disease Models based on Orthology

We have implemented a new automated pipeline to annotate *D. melanogaster* genes that may be relevant to human diseases based on their orthology to human "disease-related" genes.

The pipeline uses three sets of data:

- **DIOPT** *D. melanogaster*-to-human orthology relationships
- human gene-to-phenotype relationships within **OMIM**
- **OMIM** phenotype cross-references within the **Disease Ontology (DO)**

The annotations are shown as **Potential Models Based on Orthology** in the **Human Disease Associations** section of **Gene Reports**

Disease Ontology (DO) Annotations

Models Based on Experimental Evidence (7)

Allele	Disease	Evidence	References
LamC G489V.UAS	model of myopathy	CEA	(*Dialynas et al., 2012*)
	model of muscular dystrophy	CEA	(*Dialynas et al., 2015*)
LamC N496I.UAS	model of myopathy	CEA	(*Dialynas et al., 2012*)
	model of muscular dystrophy	CEA	(*Dialynas et al., 2015*)
LamC V528P.UAS	model of myopathy	CEA	(*Dialynas et al., 2012*)
	model of muscular dystrophy	CEA	(*Dialynas et al., 2015*)
LamC M553R.UAS	model of myopathy	CEA	(*Dialynas et al., 2012*)
	model of muscular dystrophy	CEA	(*Dialynas et al., 2015*)
LamC ΔN.UAS.cSa	model of muscular dystrophy	CEA	(*Dialynas et al., 2015*, *Zwerger et al., 2013*)
LamC E174K.UAS	model of progeria	CEA with LamC unspecified	(*Li et al., 2016*)
LamC unspecified	model of progeria	CEA with LamC E174K.UAS	(*Li et al., 2016*)

Potential Models Based on Orthology (9)

Human Ortholog	Disease	Evidence	References
LMNA; lamin A/C	model of dilated cardiomyopathy 1A	inferred from electronic annotation	(*FlyBase, 2019-*)
	model of progeria	inferred from electronic annotation	(*FlyBase, 2019-*)
	model of lethal restrictive dermopathy	inferred from electronic annotation	(*FlyBase, 2019-*)
	model of autosomal dominant Emery-Dreifuss muscular dystrophy 2	inferred from electronic annotation	(*FlyBase, 2019-*)
	model of familial partial lipodystrophy type 2	inferred from electronic annotation	(*FlyBase, 2019-*)
	model of autosomal recessive Emery-Dreifuss muscular dystrophy 3	inferred from electronic annotation	(*FlyBase, 2019-*)
	model of congenital muscular dystrophy due to LMNA mutation	inferred from electronic annotation	(*FlyBase, 2019-*)
	model of Charcot-Marie-Tooth disease type 2B1	inferred from electronic annotation	(*FlyBase, 2019-*)
LMNB1; lamin B1	model of adult-onset autosomal dominant demyelinating leukodystrophy	inferred from electronic annotation	(*FlyBase, 2019-*)

NEW

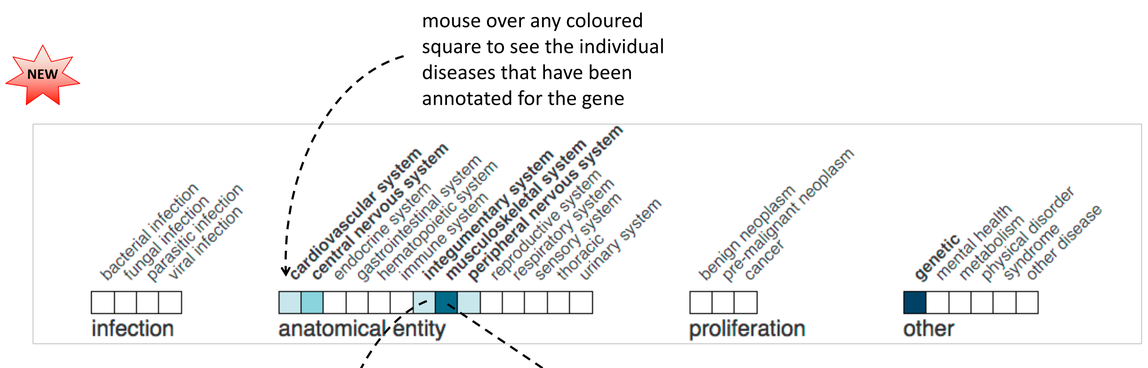
Disease Model Summary Ribbon

We have added a graphical **Summary Ribbon** to the **Human Disease Associations** section of **Gene Reports**:

- it summarises Disease Ontology data into broad categories
- the same categories are used on all gene pages, so it easy to compare between genes
- both experimentally determined models and *potential* models identified by our new automated pipeline are included in the ribbon

NEW

mouse over any coloured square to see the individual diseases that have been annotated for the gene



INTEGUMENTARY SYSTEM
- lethal restrictive dermopathy

MUSCULOSKELETAL SYSTEM
- autosomal dominant Emery-Dreifuss muscular dystrophy 2
- autosomal recessive Emery-Dreifuss muscular dystrophy 3
- Charcot-Marie-Tooth disease type 2B1
- congenital muscular dystrophy due to LMNA mutation
- familial partial lipodystrophy type 2
- muscular dystrophy
- myopathy

Finding out about new features

This poster highlights just two recent improvements to FlyBase. There are a number of ways you can keep up-to-date with the latest improvements and new features.

From the Navigation Bar at the top of each page:

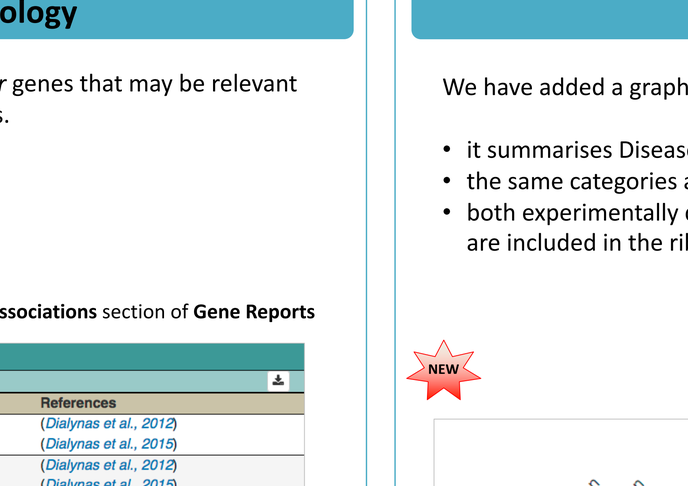
Sign up for our **Newsletter**

Follow us on twitter **@FlyBaseDotOrg**

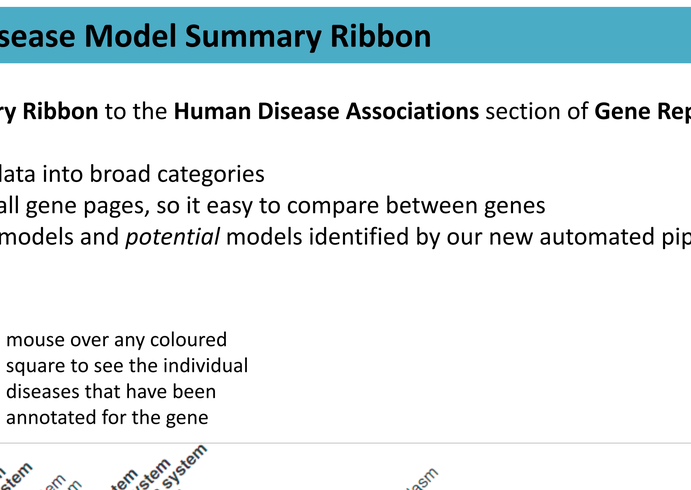
Check out the **New in This Release** and **Release Notes** pages

From the Home Page:

Check out the **Commentaries**



Got Questions ?



Help menu on the Navigation bar

Contact FlyBase form on the Navigation bar and at the bottom of each page

Come and see us during the meeting !
- we are at **Exhibitor Booth 13**

The FlyBase Consortium comprises: *Nick Brown, Giulia Antonazzo, Helen Attrill, Phani Garapati, Aoife Larkin, Steven Marygold, Gillian Millburn, Clare Pilgrim, Vitor Trovisco, Jose-Maria Urbano (FlyBase-Cambridge), Norbert Perrimon, Julie Agapite, Kris Broll, Lynn Crosby, Gil dos Santos, Kathleen Falls, Susan Russo Gelbart, L. Sian Gramates, Victoria Jenkins, Ian Longden, Beverley Matthews, Carol Sutherland, Christopher Tabone, Pinglei Zhou, Mark Zytkovicz (FlyBase-Harvard), Brian Calvi, Thomas Kaufman, Josh Goodman, Victor Strelets, Jim Thurmond (FlyBase-Indiana), Richard Cripps, Maggie Werner-Washburne, Phillip Baker (FlyBase-NewMexico).*

FlyBase is supported by a grant from the National Human Genome Research Institute at the U.S. National Institutes of Health (U41HG000739).
Support is also provided by the British Medical Research Council (RG83674) and FlyBase Users all over the world.