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Module 3:   Genes and Sequences
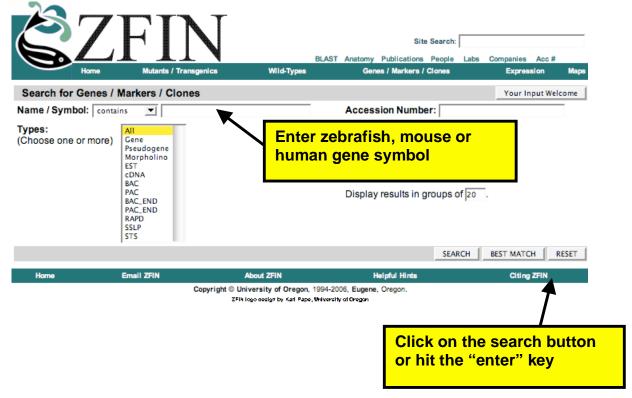##   ii.   Does my gene have known homologues/orthologs?

Aims

- Provide overview of ortholog curation at ZFIN
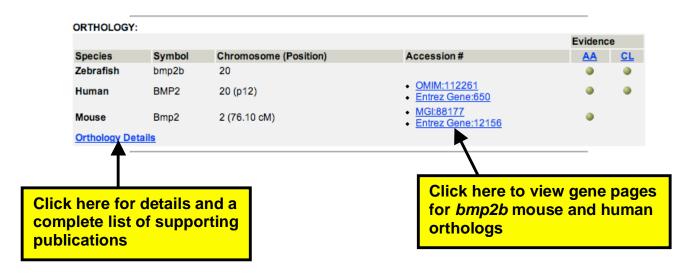- Suggest starting points for finding ortholog data

Introduction

To facilitate an understanding of relationships between gene and gene functions in zebrafish and other organisms, ZFIN curators capture orthology data for human, mouse and Drosophila genes from zebrafish literature. Approved nomenclature symbols, chromosome(position) and links to the gene page for other species are provided from ZFIN gene pages. The evidence supporting the assertion as well as the source is provided. Definitions of the various evidence codes can be found by clicking on the code itself. http://zfin.org/zf_info/oev.html.

Our curators also identify orthologs through their extensive analysis. These data are entered and attributed accordingly.

Use the ZFIN Genes/Markers/Clones query form, http://zfin.org/cgi-bin/webdriver?MIval=aa-newmrkrselect.apg to locate orthology data for a gene. This form supports the use of approved symbols and names from other organisms.

Enter zebrafish, mouse or human gene symbol

Click on the search button or hit the "enter" key

Scroll to the **Orthologs** section of the resulting gene page.

Click here for details and a complete list of supporting publications

Click here to view gene pages for *bmp2b* mouse and human orthologs

In this case links to Entrez Gene, OMIM and the mouse model organism database, MGI, are provided. The chromosome (position) is provided for each ortholog. The evidence supporting the assertion and the source for the assertion are provided. Definitions of the various evidence codes can be found by clicking on the code itself. http://zfin.org/zf_info/oev.html This example shows that amino acid sequence homology and conserved location have identified a human

bmp2b ortholog. A mouse ortholog has been identified via amino acid sequence homology and synteny.

Exercises

- What type of evidence exists to support human and mouse ortholgues of *fgf8*?