

Toward a Common Gene Page

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<http://www.gmod.org/>

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Gene Summary	Locus Summary	Sequence Summary	Protein Summary	EST Alignments	Genome Browser	Genetic Map	Nearby Genes	Bibliography	Tree Display	XML Schema	Acedb Image
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Simple Gene Product Summary for smo

[[identification](#)][[location](#)][[function](#)][[gene ontology](#)][[reactome knowledgebase](#)][[alleles](#)][[similarities](#)][[reagents](#)][[bibliography](#)]

Identification	IDs:	<table border="1"><tr><th>Symbol</th><th>Synonym(s)</th><th>Database ID</th></tr><tr><td>smo</td><td>CG11561, dSmo, Smo</td><td>FBgn0003444</td></tr></table>	Symbol	Synonym(s)	Database ID	smo	CG11561, dSmo, Smo	FBgn0003444
	Symbol	Synonym(s)	Database ID					
smo	CG11561, dSmo, Smo	FBgn0003444						
	Description: Smoothed protein precursor (dSMO) (SMOH) (Smooth).							
	Species: <i>Drosophila melanogaster</i>							
	NCBI: [Entrez Genes: AF030334]							
Gene Ontology	biological_process	GO:0001746 Bolwig's organ morphogenesis GO:0016055 Wnt receptor signaling pathway GO:0007165 signal transduction GO:0007186 G-protein coupled receptor protein signaling pathway GO:0007455 eye-antennal disc morphogenesis GO:0007346 regulation of progression through mitotic cell cycle GO:0007350 blastoderm segmentation						
	cellular_component	GO:0048099 GO:0048100 GO:0007224 GO:0005886 						
	molecular_function	GO:0016021 GO:0005768 GO:0008158 GO:0004930 GO:0004888 GO:0005515 						
Database Cross References	16 citations: InterPro:IPR000832 InterPro:IPR000024 Interpro:IPR000539 EMBL:AE003590 PROSITE:PS50261 Pfam:PF01392 PROSITE:PS50038							

Figures 1,2 and 3

Data for D. mel gene smo obtained from GO DB and displayed in templates made to emulate WormBase, FlyBase and SGD Gene pages.

Abstract

Over the past few years, there has been increasing interest in the development of common gene pages that present information at different model organism databases (MODs) in a common format. Our target audience for this effort is the non-expert users of a given MOD, who may be visiting experts from another MOD or users from outside the MOD community. In this project, we are not concerned with formatting, but rather with consistency of labels and content. Here we present a first attempt at such a page using the data collected by the Gene Ontology project, with the goal of establishing common labels and content that can be implemented by various MODs as an alternate gene page for non-expert users.

Target Audience

Non-expert users, including:
* Curators from other MODs
* Non-MOD biologists
* Students and educators

Methods

A simple CGI perl script was created to use the go-db-perl API to extract gene data from a local MySQL Gene Ontology DB installation. The CGI then uses the perl Template Toolkit to create html pages from templates that are derived from gene pages from WormBase, FlyBase, and SGD to provide a few examples. Creating the templates from a MODs gene page is a relatively simple process requiring a few hours of editing. An example page for creating these simple gene pages and the code for the CGI and the templates are available at <http://www.gmod.org/>. On the right are three screenshots of the same data (for D. mel gene som) in each of the templates. Please note: the idea here is not necessary to proscribe a format for the data, only to set the labels and their related data types.

Why GO DB?

The gene product data in the Gene Ontology database represents a collection of data that several MOD communities have already agreed to a common set of terms:

- * Symbol
- * Synonym
- * Database Cross Reference
- * Database ID
- * Description
- * Gene Ontology terms

These collection of terms can form the nucleus a set of common terms for building common gene pages.

What Next?

There is an email list to discuss the development of a common gene page. Subscribe at the GMOD home page (<http://www.gmod.org/>). There will also be on going discussions about common gene page development at the GMOD webpage. After obtaining consensus on the core terms presented here, efforts will commense to identify other terms to add to a common gene page.

Acknowledgements

Special thanks to Mike Cherry, David Emmert, Kara Dolinski and the other attendees of the Fall, 2005 GMOD meeting for their suggestions for creating this poster.



Funding

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FlyBase Report

Simple Synopsis of Gene *smo*

Symbol <i>smo</i>	Description	Database ID
other Synonyms: CG11561, dSmo, Smo	<i>Smoothed protein precursor (dSMO) (SMOH) (Smooth).</i>	FBgn0003444
SPECIES	<i>Drosophila melanogaster</i>	
GENE ONTOLOGY	GO:0001746 Bolwig's organ morphogenesis GO:0016055 Wnt receptor signaling pathway GO:0007165 signal transduction GO:0007186 G-protein coupled receptor protein signaling pathway GO:0007455 eye-antennal disc morphogenesis GO:0007346 regulation of progression through mitotic cell cycle GO:0007350 blastoderm segmentation GO:0048099 anterior/posterior lineage restriction, imaginal disc GO:0048100 wing disc anterior/posterior pattern formation GO:0007224 smoothened signaling pathway	
GO:biological_process		
GO:cellular_component	GO:0005886 plasma membrane GO:0016021 integral to membrane GO:0005768 endosome	
GO:molecular_function	GO:0008158 hedgehog receptor activity GO:0004930 G-protein coupled receptor activity GO:0004888 transmembrane receptor activity GO:0005515 protein binding	
Database cross references	InterPro:IPR000832 InterPro:IPR000024 Interpro:IPR000539 EMBL:AE003590 PROSITE:PS50261 Pfam:PF01392 PROSITE:PS50038 SMART:SM00063 Pfam:PF01534 PRINTS:PR00489 GO:GO:0005768 EMBL:U87613 EMBL:AF030334 IntAct:P91682 FlyBase:FBgn0003444 SPTR:P91682	

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Available reports
Synopsis
Abridged report
Full report
Recent updates
Genome Annotation
Subsections
Alleles
Expression & Phenotypes
Map locations
Proteins & Transcripts
Constructs & Insertions
Genetic Interactions
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Stocks
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smo Summary

Summary | Locus History | Literature | Gene Ontology | Phenotype | Interactions | Expression | Protein

smo BASIC INFORMATION

Symbol	smo
Species	<i>Drosophila melanogaster</i>
Database ID	FBgn0003444
Synonyms	CG11561, dSmo, Smo
Description	Smoothed protein precursor (dSMO) (SMOH) (Smooth).
GO Annotations	
biological_process	<ul style="list-style-type: none">• GO:0016055 Wnt receptor signaling pathway• GO:0007165 signal transduction• GO:0007186 G-protein coupled receptor protein signaling pathway• GO:0007455 eye-antennal disc morphogenesis• GO:0007346 regulation of progression through mitotic cell cycle• GO:0007350 blastoderm segmentation• GO:0048099 anterior/posterior lineage restriction, imaginal disc• GO:0048100 wing disc anterior/posterior pattern formation• GO:0007224 smoothened signaling pathway
cellular_component	<ul style="list-style-type: none">• GO:0016021 integral to membrane• GO:0005768 endosome
molecular_function	<ul style="list-style-type: none">• GO:0004930 G-protein coupled receptor activity• GO:0004888 transmembrane receptor activity• GO:0005515 protein binding
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