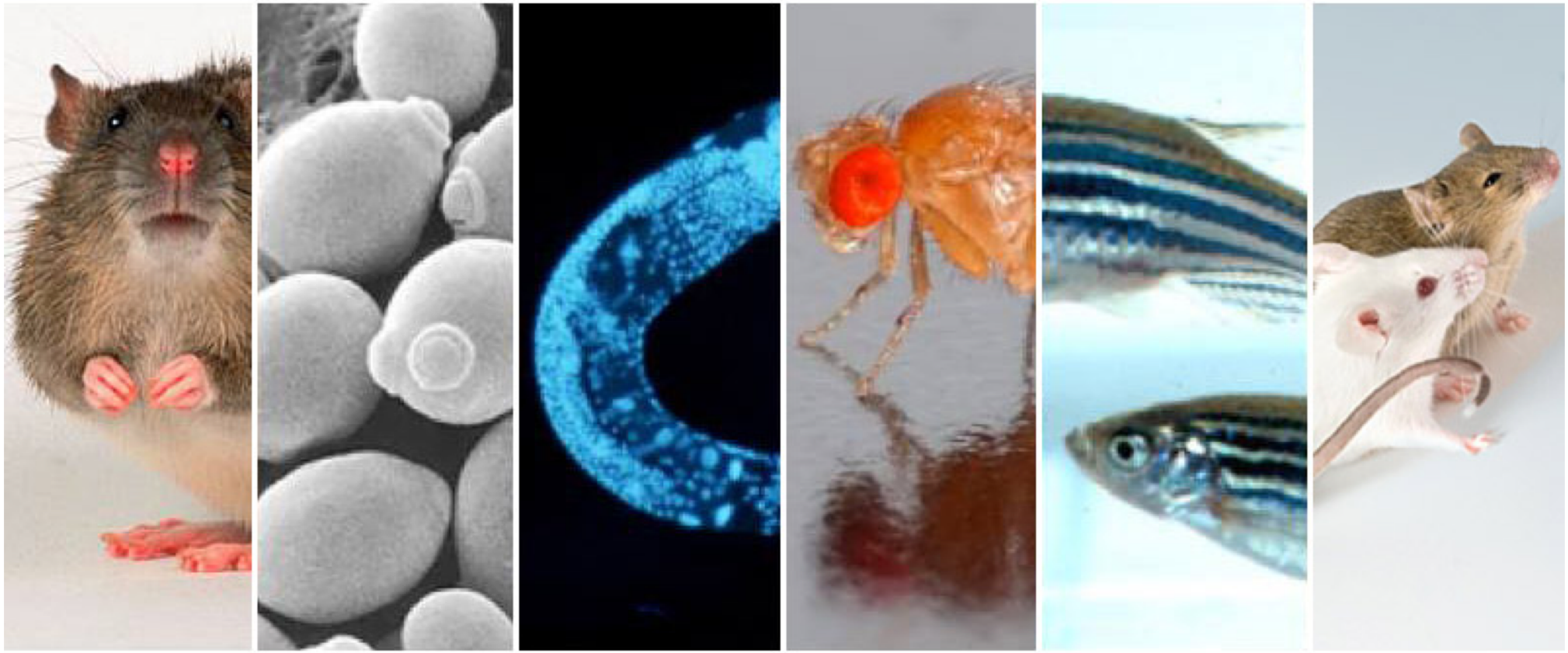
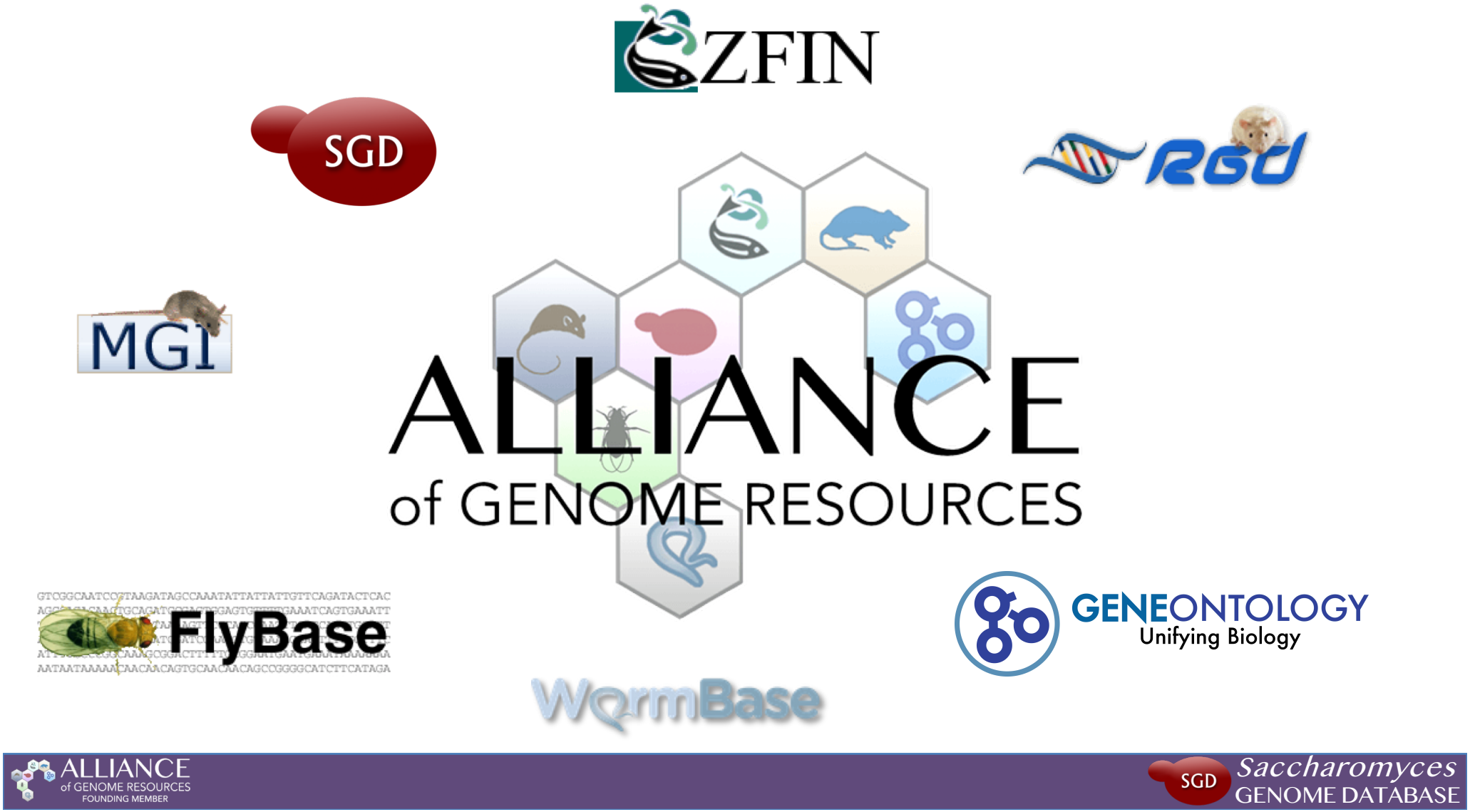

ALLIANCE
of GENOME RESOURCES




ZFIN
SGD
RGD
MGI
ALLIANCE
of GENOME RESOURCES
FlyBase
GENEONTOLOGY
Unifying Biology
WormBase
ALLIANCE
of GENOME RESOURCES
FOUNDING MEMBER
SGD
Saccharomyces
GENOME DATABASE

- Alliance Mission -

develop and maintain

sustainable genome information resources

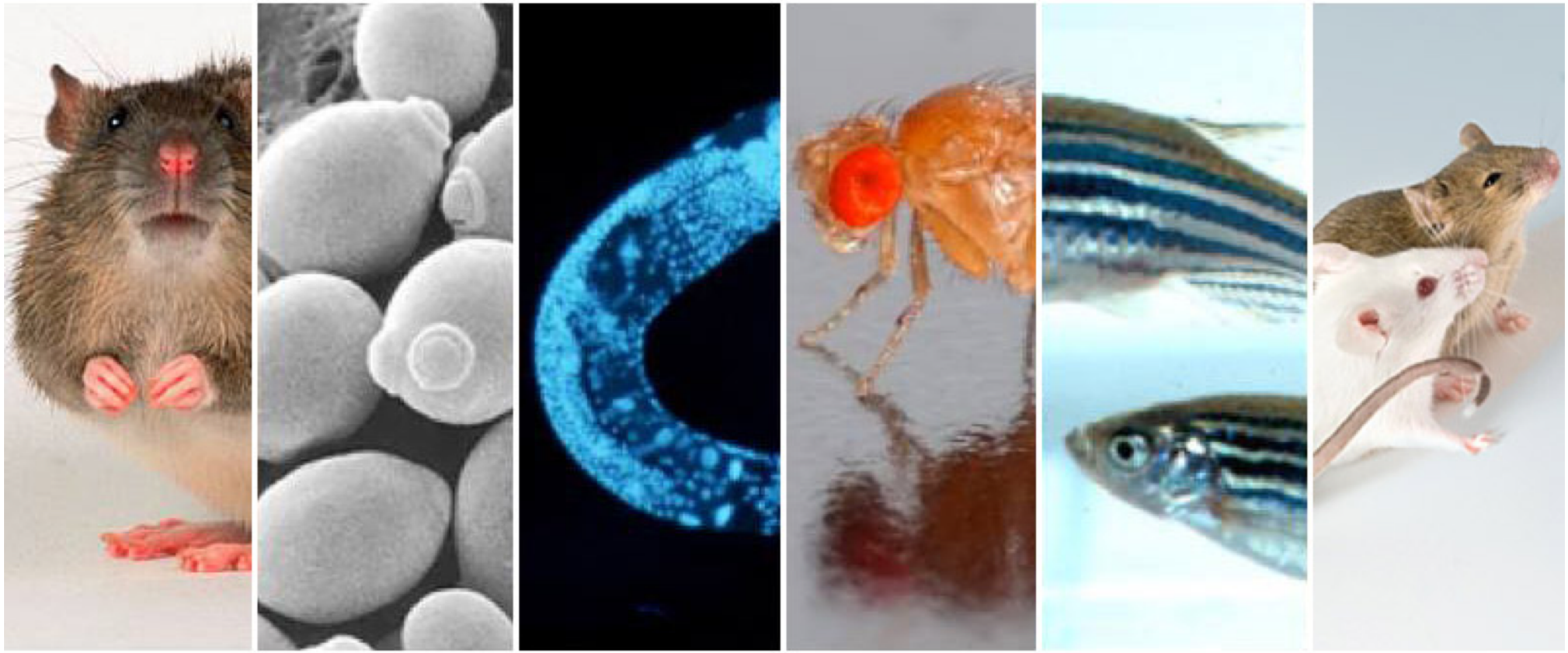
that

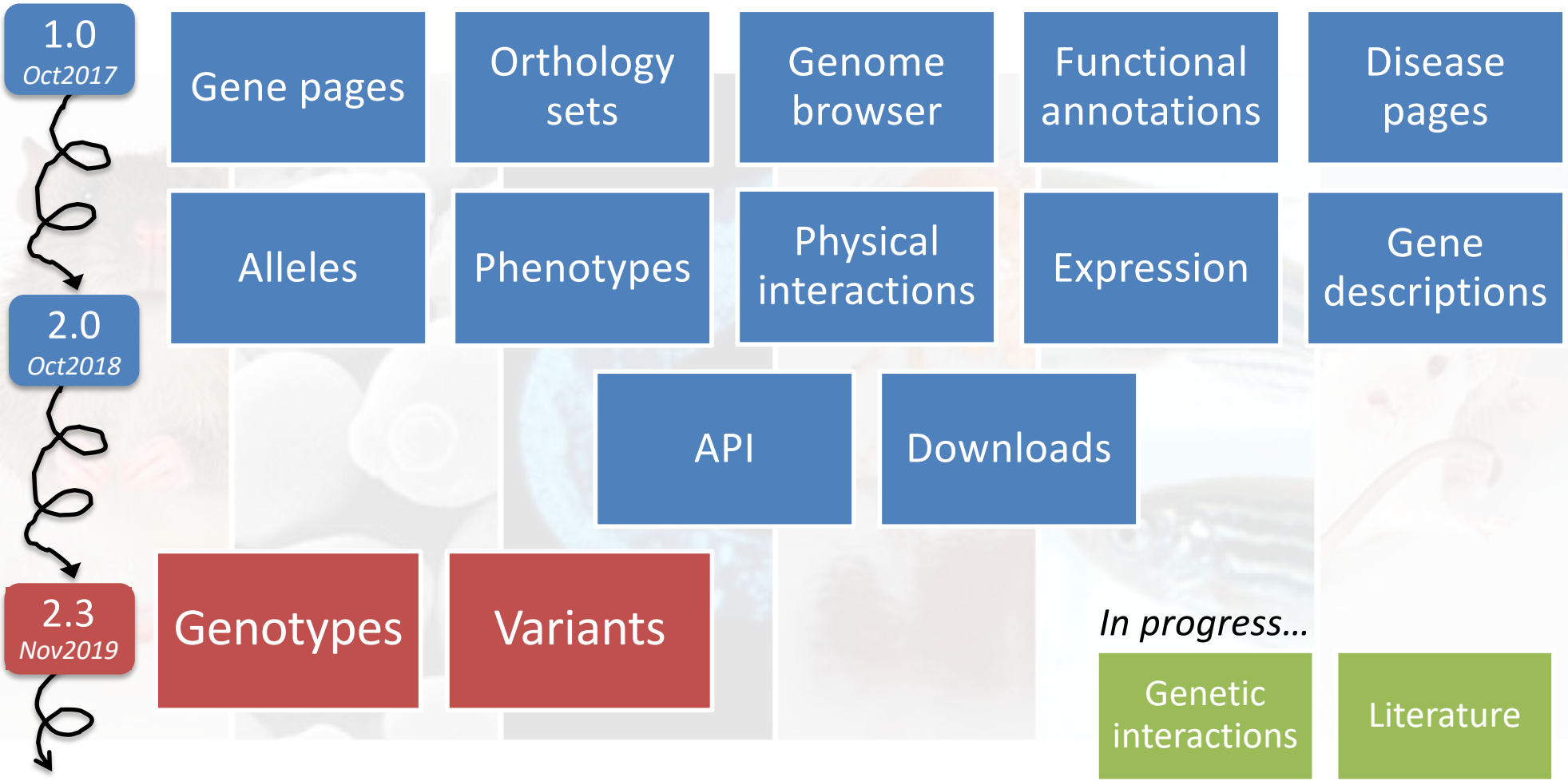
facilitate the use of model organisms

to understand

the genetic and genomic bases of

human biology, health, and disease




1.0
Oct2017
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Genome browser
Functional annotations
Disease pages
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Phenotypes
Physical interactions
Expression
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API
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Questions? Contact Us

ALLIANCE of GENOME RESOURCES Release 2.2.0

All | search a gene, disease or GO term

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MISSION STATEMENT

The primary mission of the Alliance of Genome Resources (the Alliance) is to develop and maintain sustainable genome information resources that facilitate the use of diverse model organisms in understanding the genetic and genomic basis of human biology, health and disease. This

MIP1 / YOR330C Overview

Standard Name: MIP1 [1]

Systematic Name: YOR330C

SGD ID: SGD:S000005857

Feature Type: ORF , Verified

Description: Mitochondrial DNA polymerase gamma; single subunit of mitochondrial DNA polymerase in yeast, in contrast to metazoan complex of catalytic and accessory subunits; polymorphic in yeast, petites occur more frequently in some lab strains; human ortholog POLG complements yeast mip1 mutant; mutations in human POLG associated with Alpers-Huttenlocher syndrome (AHS), progressive external ophthalmoplegia (PEO), parkinsonism, other mitochondrial diseases [2 3 4 5 6 7 8 9]

Name Description: MItochondrial DNA Polymerase [1]

Comparative Info: Integrated model organism details available at the Alliance of Genome Resources website

Sequence

Sequence Details

Download (fsa)

Questions? Contact Us

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All | mip1

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MIP1 (Sce)	Gene
mip130 (Dme)	Gene
mip120 (Dme)	Gene
mip120[KG05422] (Dme)	Allele
mip130[1-723+1-36] (Dme)	Allele
mip120[e00802] (Dme)	Allele
mip120[EY08308] (Dme)	Allele
mip120[EP606] (Dme)	Allele
mip130[unspecified] (Dme)	Allele
mip120[P02006] (Dme)	Allele

Category

Allele	19
Gene	16
Gene Ontology	11
Disease	4

50 results for Q: "mip1" ✖

View As: List | Table

MIP1 (Saccharomyces cerevi
Name: MItochondrial DNA Pol
Synonyms: YOR330C
Source: SGD:S000005857
Biotype: protein coding gene
Symbol: *MIP1* (Sce)
GeneSynopsis: more frequently in some lab strains; human ortholog POLG complements yeast *mip1* mutant; mutations in

mip120 (Drosophila melanogaster) — Gene
Name: Myb-interacting protein 120
Synonyms: *Not Available*
Source: FB:FBgn0033846
Biotype: protein coding
Symbol: *mip120* (Dme)

mip120[KG05422] (Drosophila melanogaster) — Allele
ID: FB:FBal0137596
Gene: mip120 (Dme)
Synonyms: *Not Available*
Diseases: *Not Available*
Symbol: *mip120[KG05422]* (Dme)

MIP1

Saccharomyces cerevisiae

SGD:S000005857

- Summary
- Sequence Feature Viewer
- Function - GO Annotations
- Orthology
- Phenotypes
- Disease Associations
- Expression
- Alleles

MIP1

Species	*Saccharomyces cerevisiae*
Symbol	MIP1
Name	MItochondrial DNA Polymerase
Synonyms	YOR330C
Biotype	protein coding gene
Automated Description	Exhibits 3'-5' exonuclease activity and DNA-directed DNA polymerase activity; involved in mitochondrial DNA replication; localizes to the mitochondrion; used to study several diseases, including Alpers syndrome, chronic progressive external ophthalmoplegia, and peripheral nervous system disease.
SGD Description	Mitochondrial DNA polymerase gamma; single subunit of mitochondrial DNA polymerase in yeast, in contrast to metazoan complex of catalytic and accessory subunits; polymorphic in yeast, petites occur more frequently in some lab strains; human ortholog POLG complements yeast mip1 mutant; mutations in human POLG associated with Alpers-Huttenlocher syndrome (AHS), progressive external ophthalmoplegia (PEO), parkinsonism, other mitochondrial diseases
Genomic Resources	NCBI_Gene:854508 UniProtKB:P15801
Additional Information	Literature

MIP1

Saccharomyces cerevisiae

SGD:S000005857

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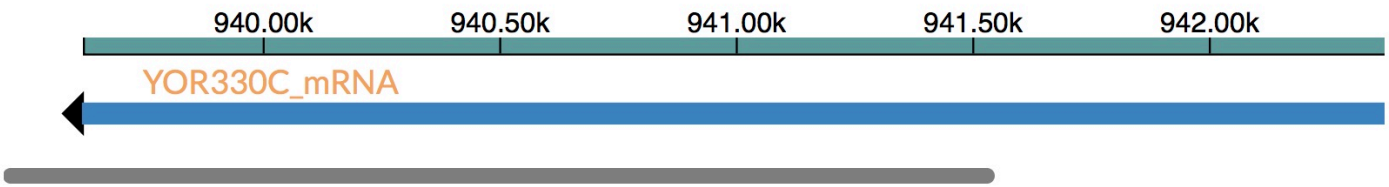
Sequence Feature Viewer

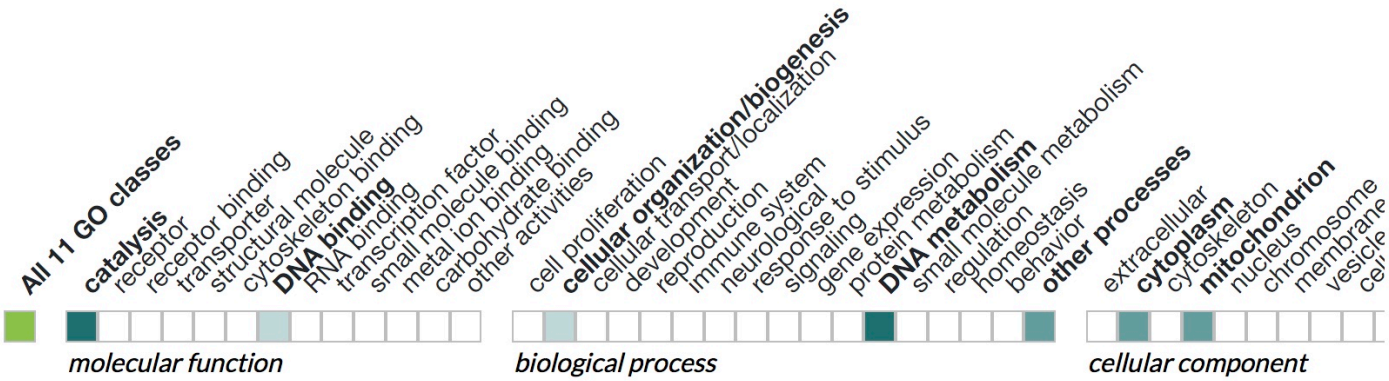
Linkout to genome browser

Genome location chrXV:939621...943385 (3.76 kb)

Assembly version R64-2-1



Function - GO Annotations

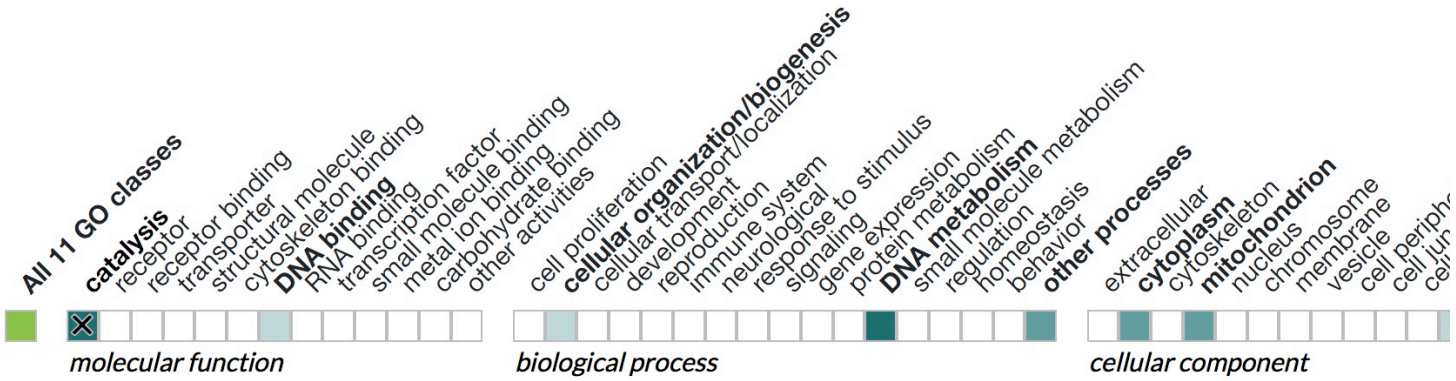


MIP1

Saccharomyces cerevisiae

SGD:S000005857

Function - GO Annotations



Saccharomyces cerevisiae MIP1 annotations at GO to catalysis

Term	Evidence	Based on	Reference
3'-5' exonuclease activity	IDA		PMID:20601
	IBA	PANTHER:PTN000030201, SGD:S000005857	PMID:21873
DNA-directed DNA polymerase activity	IDA		PMID:20601
	IEA	InterPro:IPR001098	SGD_REF:S0
		InterPro:IPR019760	SGD_REF:S0
		EC:2.7.7.7	SGD_REF:S0

MIP1

Saccharomyces cerevisiae

SGD:S000005857

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Orthology

Focus gene MIP1 - (Species: Saccharomyces cerevisiae)

Gene tree PANTHER:PTHR10267

Stringency: (•) Stringent filter (default) ( ) Moderate filter ( ) No filter / Show all

Show additional filters | Reset filters

Species	Gene symbol	Count	Best	Best reverse	Method: Ensembl Compara	HGNC	Hieranoid	InParanoid	OMA	OrthoFinder	OrthoInsp	PANT
Homo sapiens	POLG	9 of 10	Yes	Yes	☑	☑	☑	☑	☑	☑	☑	☑
Mus musculus	Polg	9 of 10	Yes	Yes	☑	☑	☑	☑	☑	☑	☑	☑

MIP1

Saccharomyces cerevisiae
SGD:S000005857

Summary
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Molecular Interactions

Phenotypes

36 phenotypes based on 36 annotations

Sort by Default

Phenotype Term	Genetic Entity	Genetic Entity Type	References
abnormal chemical compound accumulation		gene	PMID:27693354
abnormal mitochondrial genome maintenance		gene	PMID:19751518, PMID:16368709
abnormal vacuolar morphology		gene	PMID:23383298
abnormal vegetative growth		gene	PMID:12432101
absent mitochondrial genome maintenance		gene	PMID:25170845, PMID:20883824
absent respiratory growth		gene	PMID:20883824, PMID:19751518, PMID:11907266
absent respiratory metabolism		gene	PMID:16491467
decreased acid pH resistance		gene	PMID:19220866
decreased cell death		gene	PMID:21814286

MIP1

Saccharomyces cerevisiae

SGD:S000005857

- Summary
- Sequence Feature Viewer
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- **Disease Associations**
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- Alleles
- Molecular Interactions

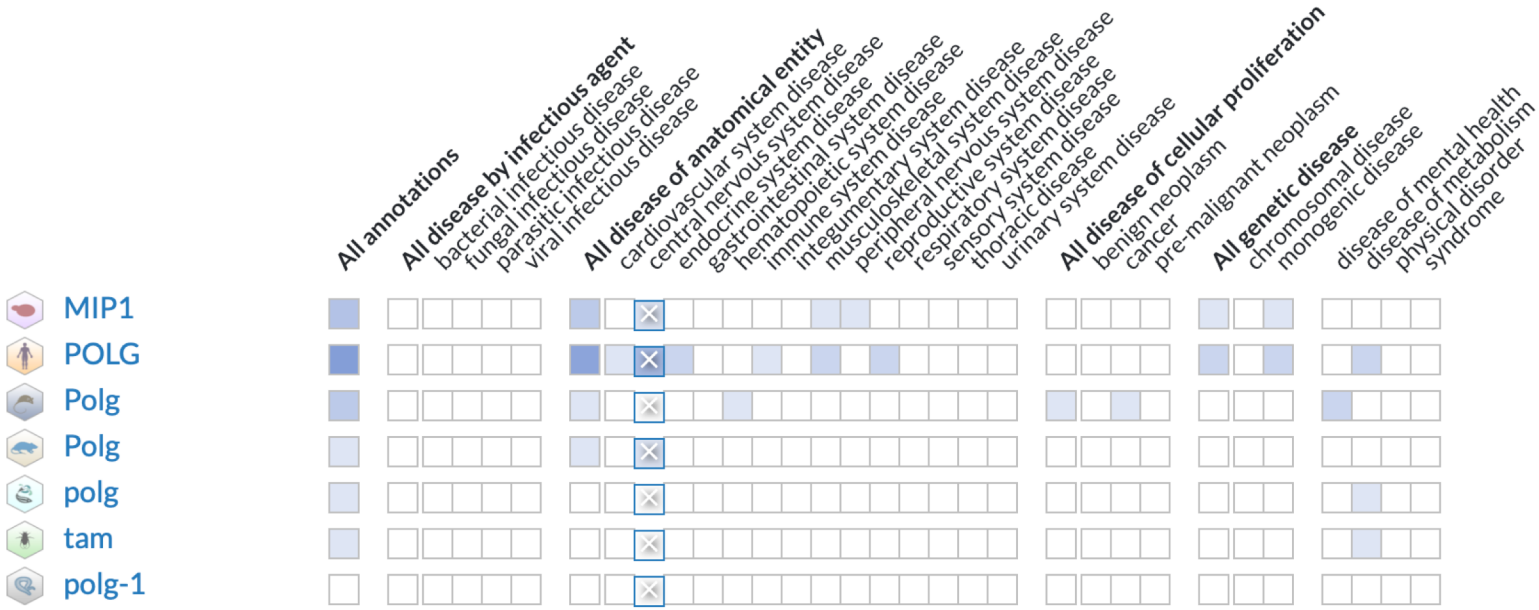
Disease Associations

Compare to ortholog genes

Stringency: (•) Stringent ( ) Moderate ( ) No filter

POLG (Hsa) × | Polg (Mmu) × | Polg (Rno) × | polg (Dre) × | tam (Dme) × | polg-1 (Cel) ×

or **Add all**



MIP1

Saccharomyces cerevisiae

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Disease Associations

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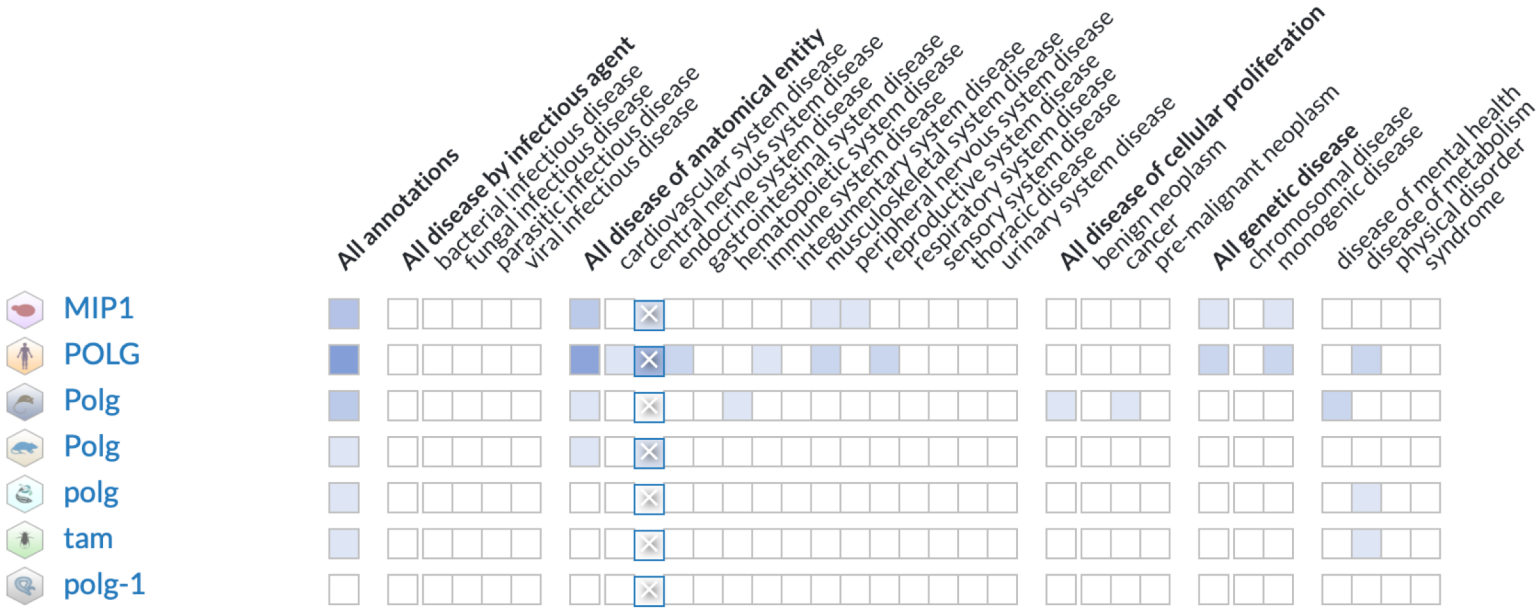
POLG (Hsa) × Polg (Mmu) × Polg (Rno) × polg (Dre) × tam (Dme) × polg-1 (Cel) ×

or Add all



MIP1

Saccharomyces cerevisiae

SGD:S000005857

Summary

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Stringency: Stringent Moderate No filter

POLG (Hsa) × Polg (Mmu) × Polg (Rno) × polg (Dre) × tam (Dme) × polg-1 (Cel) ×

or Add all

Leadership Team


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Sagar Jha, MS

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Stuart Miyasato


Matt Simison

Saccharomyces Genome Database (SGD)
yeastgenome.org

Alliance of Genome Resources
alliancegenome.org

Department of Genetics, Stanford University