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2010年10月15日

BioGRID

- BioGRID | Database of Protein and Genetic Interactions
- BioGRID： the Biological General Repository for Interaction Datasets
- BioGRID is an online interaction repository with data compiled through comprehensive curation efforts. Our current index is version 3.1.69 and searches 23,755 publications for 355,947 raw protein and genetic interactions from major model organism species. All interaction data are freely provided through our search index and available via download in a wide variety of standardized formats.

About the BioGRID

- The Biological General Repository for Interaction Datasets (BioGRID) database (http://www.thebiogrid.org) was developed to house and distribute collections of protein and genetic interactions from major model organism species. BioGRID currently contains over 340,000 interactions from major model organism species, as derived from both high-throughput studies and conventional focused studies. Through comprehensive curation efforts, BioGRID now includes a virtually complete set of interactions reported to date in the primary literature for the budding yeast Saccharomyces cerevisiae and the fission yeast Schizosaccharomyces pombe. A number of new features have been added to the BioGRID including an improved user interface to display interactions based on different attributes, a mirror site and a dedicated interaction management system to coordinate curation across different locations. The BioGRID provides interaction data with monthly updates to Saccharomyces Genome Database, Flybase and Entrez Gene. Source code for the BioGRID and the linked Osprey network visualization system is now freely available without restriction.

BioGRID访问网站

- http://thebiogrid.org

- **Contact Information**
- **EMAIL: biogridadmin@gmail.com**

Welcome to the Biological General Repository for Interaction Datasets

BioGRID is an online interaction repository with data compiled through comprehensive curation efforts. Our current index is version **3.1.69** and searches **23,755** publications for **355,947** raw protein and genetic interactions from major model organism species. All interaction data are **freely** provided through our search index and available via download in a wide variety of standardized formats.

INTERACTION STATISTICS | LATEST DOWNLOADS

Search the BioGRID

Search by identifiers, keywords, and gene names...

By Gene | By Publication

All Organisms

SUBMIT GENE SEARCH

Advanced Search | Search Tips | Featured Datasets

AREAS OF INTEREST TO HELP YOU GET STARTED

Build and Download Interaction Datasets

Create custom interaction datasets by protein or by publication. You can also download our entire dataset in a wide variety of standard formats.

Link To Us or Submit Interactions

Send us your datasets or link to the BioGRID directly from your own website or database. Full details on how to contribute are available here.

Online Tools and Resources

We've developed tools that make use of BioGRID data. Check out the list of tools to see if we can help you work with our data.

View Our Interaction Statistics

Find out how many organisms, proteins, publications, and interactions are available in the current release of the BioGRID.

BIOGRID FUNDING AND PARTNERS

more partners

LATEST NEWS

BioGRID 3.1 – Now Live

The BioGRID was updated today to our newest release designated **BioGRID 3.1**. This update includes several bug fixes and user interface improvements as well as some new features. The following is a short list of some of the changes:

- **Search by Pubmed ID.** Our new search allows you to find publications by searching for Pubmed ids. Simply click on the "By Publication" tab to the right of our search and enter in one or more Pubmed IDs. For more details on how our Pubmed ID search works, **visit our wiki**...
- **Search Publications by Full Text**. Our new search allows you to find publications by searching Titles, Abstracts, Authors, and MeshTerms by full text phrases. Simply click on the "By Publication" tab to the right of our search and enter in one or more terms. For more details on how our Full Text search works, **visit our wiki**...

BioGRID Team

- **Lorrie Boucher** [curator, Toronto]
- **Bobby-Joe Breitkreutz** [software engineer, Toronto]
- **Andrew Chatr-Aryamontri** [curator, Edinburgh]
- **Kara Dolinski** [co-principal investigator, Princeton]
- **Michael Livstone** [curator, Princeton]
- **Julie Nixon** [curator, Edinburgh]
- **Rose Oughtred** [curator, Princeton]
- **Teresa Reguly** [curator, Toronto]
- **Jennifer Rust** [curator, Princeton]
- **Chris Stark** [software engineer, Toronto]
- **Mike Tyers** [principal investigator, Edinburgh]
- **Andrew Winter** [curator, Edinburgh]

PRINCETON UNIVERSITY

THE UNIVERSITY OF EDINBURGH

MOUNT SINAI HOSPITAL
Joseph and Wolf Lebovic Health Complex
Samuel Lunenfeld Research Institute

BioGRID Partners

BioGRID Partners

In order to ensure that BioGRID data is available to as many users as possible, we work with many different partners in building tools, sharing interaction data, and collaborating on common curation goals. The following is a list of some of the different partners who work with us every day. If you're interested in becoming a BioGRID partner, please send us a message at **biogridadmin@gmail.com**.

Funding Partners

National Institutes of Health

CIHR IRSC

BBSRC bioscience for the future

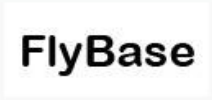
Facility Partners

University of Edinburgh

Princeton University

Mount Sinai Hospital

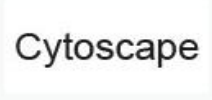
Model Organism Database Partners



Interaction Database Partners


Annotation Database Partners

Tool Partners



Software and Library Partners

BioGRID Publications

- Breitkreutz A, Choi H, Sharom JR, Boucher L, Neduva V, Larsen B, Lin ZY, Breitkreutz BJ, Stark C, Liu G, Ahn J, Dewar-Darch D, Reguly T, Tang X, Almeida R, Qin ZS, Pawson T, Gingras AC, Nesvizhskii AI, Tyers M. **A global protein kinase and phosphatase interaction network in yeast.** Science. 2010 May 21;328(5981):1043-6. [Pubmed]
- Stark C, Ting-Cheng Su, Breitkreutz A, Lourenco P, Dahabieh M, Breitkreutz BJ, Tyers M, Sadowski I. **PhosphoGRID: a database of experimentally verified in vivo protein phosphorylation sites from the budding yeast Saccharomyces cerevisiae.** Database. 2010 Jan; Vol. 2010 [Pubmed]
- Salwinski L, Licata L, Winter A, Thorneycroft D, Khadake J, Ceol A, Aryamontri AC, Oughtred R, Livstone M, Boucher L, Botstein D, Dolinski K, Berardini T, Huala E, Tyers M, Eisenberg D, Cesareni G, Hermjakob H. **Recurated protein interaction datasets.** Nat Methods. 2009 Jan;6(1):39-46. [Pubmed]
- Breitkreutz BJ, Stark C, Reguly T, Boucher L, Breitkreutz A, Livstone M, Oughtred R, Lackner DH, Bähler J, Wood V, Dolinski K, Tyers M. **The BioGRID Interaction Database: 2008 update.** Nucleic Acids Res. 2008 Jan;36(Database issue):D637-40. Epub 2007 Nov 13. [Pubmed]
- Reguly T, Breitkreutz A, Boucher L, Breitkreutz BJ, Hon GC, Myers CL, Parsons A, Friesen H, Oughtred R, Tong A, Stark C, Ho Y, Botstein D, Andrews B, Boone C, Troyanskya OG, Ideker T, Dolinski K, Batada NN, Tyers M. **Comprehensive curation and analysis of global interaction networks in Saccharomyces cerevisiae.** J Biol. 2006;5(4):11. Epub 2006 Jun 8. [Pubmed]
- Stark C, Breitkreutz BJ, Reguly T, Boucher L, Breitkreutz A, Tyers M. **BioGRID: a general repository for interaction datasets.** Nucleic Acids Res. 2006 Jan 1;34(Database issue):D535-9. [Pubmed]
- Breitkreutz BJ, Stark C, Tyers M. **The GRID: the General Repository for Interaction Datasets.** Genome Biol. 2003;4(3):R23. Epub 2003 Feb 27. [Pubmed]
- Breitkreutz BJ, Stark C, Tyers M. **Osprey: a network visualization system.** Genome Biol. 2003;4(3):R23. Epub 2003 Feb 27. [Pubmed]

BioGRID Affiliations

- John Aitchison Lab
- Brenda Andrews Lab
- Gary Bader Lab
- Jürg Bähler Lab
- Judy Blake Lab
- Jef Boeke Lab
- Charlie Boone Lab
- David Botstein Lab
- Gianni Cesarini Lab
- Mike Cherry Lab
- Russ Finley Lab
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- Bill Gelbart Lab
- Anne-Claude Gingras Lab
- Henning Hermjakob Lab
- Eva Huala Lab
- Trey Ideker Lab
- Michael Katze Lab
- Quaid Morris Lab
- Tony Pawson Lab
- Matthias Peter Lab
- Francis Ouellette Lab
- Sue Rhee Lab
- Ivan Sadowski Lab
- Chris Sander Lab
- Gavin Sherlock Lab
- Mike Snyder Lab
- Lincoln Stein Lab
- Paul Sternberg Lab
- Olga Troyanskaya Lab
- Alfonso Valencia Lab
- Monte Westerfield Lab
- Shoshana Wodak Lab
- Jim Woodgett Lab
- Mike Yaffe Lab

Current Build Statistics (3.1.69) - October 2010

Organism	Experiment Type	Raw Interactions	Non-Redundant Interactions	Unique Proteins	Unique Publications
Arabidopsis thaliana	PHYSICAL	5619	3998	2033	769
	GENETIC	182	123	98	58
	COMBINED	5801	4103	2077	817
Bacillus subtilis 168	PHYSICAL	1	1	2	1
	GENETIC	0	0	0	0
	COMBINED	1	1	2	1
Bos taurus	PHYSICAL	66	54	80	29
	GENETIC	0	0	0	0
	COMBINED	66	54	80	29
Caenorhabditis elegans	PHYSICAL	4689	4566	2821	19
	GENETIC	2133	2099	1041	9
	COMBINED	6822	6649	3527	22
Canis familiaris	PHYSICAL	5	5	8	4
	GENETIC	0	0	0	0
	COMBINED	5	5	8	4
Danio rerio	PHYSICAL	1	1	2	1
	GENETIC	1	1	2	1
	COMBINED	2	2	4	2
Drosophila melanogaster	PHYSICAL	24431	24068	7377	168
	GENETIC	9998	2737	985	1467
	COMBINED	34429	26720	7559	1603
Escherichia coli K12 MG1655	PHYSICAL	33	32	36	4
	GENETIC	10	10	15	5
	COMBINED	43	42	51	9
Gallus gallus	PHYSICAL	36	30	44	20
	GENETIC	2	1	2	1
	COMBINED	38	31	46	21

Homo sapiens	PHYSICAL	48956	33153	9637	10306
	GENETIC	476	455	491	181
	COMBINED	49432	33432	9814	10352
Human Herpesvirus 1	PHYSICAL	10	7	8	2
	GENETIC	0	0	0	0
	COMBINED	10	7	8	2
Macaca mulatta	PHYSICAL	1	1	2	1
	GENETIC	0	0	0	0
	COMBINED	1	1	2	1
Mus musculus	PHYSICAL	2247	1814	1599	502
	GENETIC	51	47	62	26
	COMBINED	2298	1843	1620	515
Rattus norvegicus	PHYSICAL	646	469	558	209
	GENETIC	5	5	8	3
	COMBINED	651	470	559	209
Saccharomyces cerevisiae	PHYSICAL	92015	56515	5786	5529
	GENETIC	151040	110667	5371	5687
	COMBINED	243055	162681	6035	9583
Schizosaccharomyces pombe	PHYSICAL	4130	2715	1466	787
	GENETIC	11692	10688	1349	983
	COMBINED	15822	12991	2061	1443
Xenopus laevis	PHYSICAL	66	52	73	30
	GENETIC	0	0	0	0
	COMBINED	66	52	73	30
ALL Organisms	PHYSICAL	180629	125548	29419	17557
	GENETIC	175318	126568	9100	8338
	COMBINED	355947	246906	31144	23755

Note: Individual organism counts listed above may total to more than the values in ALL Organisms due to some interactions being counted multiple times due to cross species interactors.

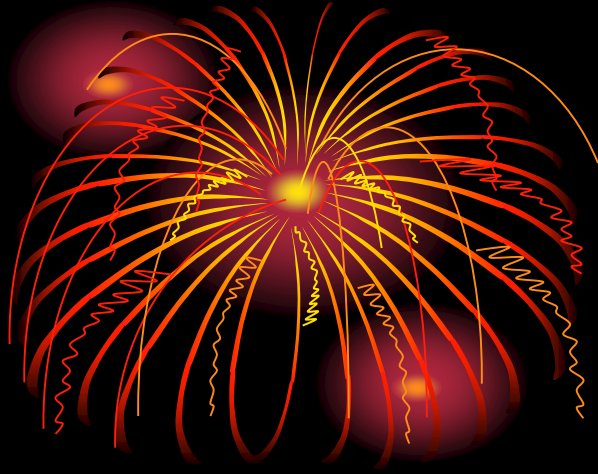
数据库更新频率

每月更新

- **2010 Updates**
- **Build Statistics (3.0.68) - September 2010**
- **Build Statistics (3.0.67) - August 2010**
- **Build Statistics (3.0.66) - July 2010**
- **Build Statistics (3.0.65) - June 2010**
- **Build Statistics (3.0.64) - May 2010**
- **Build Statistics (2.0.63) - April 2010**
- **Build Statistics (2.0.62) - March 2010**
- **Build Statistics (2.0.61) - February 2010**
- **Build Statistics (2.0.60) - January 2010**
- **2009 Updates**
- **Build Statistics (2.0.59) - December 2009**
- **Build Statistics (2.0.58) - November 2009**
- **Build Statistics (2.0.57) - October 2009**
- **Build Statistics (2.0.56) - September 2009**
- **Build Statistics (2.0.55) - August 2009**
- **Build Statistics (2.0.54) - July 2009**
- **Build Statistics (2.0.53) - June 2009**
- **Build Statistics (2.0.52) - May 2009**
- **Build Statistics (2.0.51) - April 2009**
- **Build Statistics (2.0.50) - March 2009**
- **Build Statistics (2.0.49) - February 2009**
- **Build Statistics (2.0.48) - January 2009**

- **2008 Updates**
- Build Statistics (2.0.47) - December 2008
- Build Statistics (2.0.46) - November 2008
- Build Statistics (2.0.45) - October 2008
- Build Statistics (2.0.44) - September 2008
- Build Statistics (2.0.43) - August 2008
- Build Statistics (2.0.42) - July 2008
- Build Statistics (2.0.41) - June 2008
- Build Statistics (2.0.40) - May 2008
- Build Statistics (2.0.39) - April 2008
- Build Statistics (2.0.38) - March 2008
- Build Statistics (2.0.37) - February 2008
- Build Statistics (2.0.36) - January 2008
- **2007 Updates**
- Build Statistics (2.0.35) - December 2007
- Build Statistics (2.0.34) - November 2007
- Build Statistics (2.0.33) - October 2007
- Build Statistics (2.0.32) - September 2007
- Build Statistics (2.0.31) - August 2007
- Build Statistics (2.0.30) - July 2007
- Build Statistics (2.0.29) - June 2007
- Build Statistics (2.0.28) - May 2007
- Build Statistics (2.0.27) - April 2007
- Build Statistics (2.0.26) - March 2007
- Build Statistics (2.0.25) - February 2007
- Build Statistics (2.0.24) - January 2007
- **2006 Updates**
- Build Statistics (2.0.23) - December 2006
- Build Statistics (2.0.22) - November 2006
- Build Statistics (2.0.21) - October 2006
- Build Statistics (2.0.20) - September 2006
- Build Statistics (2.0.19) - August 2006
- Build Statistics (2.0.18) - July 2006

演示用法



- http://www.thebiogrid.org
- 以**STE11**为例

Interaction Summary

STE11 | Strongylocentrotus purpuratus | SEARCH

STE11 (A)
YLR362W

Saccharomyces cerevisiae

Signal transducing MEK kinase involved in pheromone response and pseudohyphal/invasive growth pathways where it phosphorylates Ste7p, and the high osmolarity response pathway, via phosphorylation of Pbs2p; regulated by Ste20p and Ste50p

GO Process: 8 Terms | GO Function: 2 Terms | GO Component: 1 (B)

(C) EXTERNAL DATABASE LINKOUTS
SGD | Entrez Gene | RefSEQ | GenBank | GeneDB | PhosphoGRID

Download 75 Associations For This Protein (D)

Stats & Filters (E)

Current Statistics — **Publications:** 94

High Throughput		Low Throughput
17 (16%)	105 Physical Associations	88 (84%)
1 (2%)	64 Genetic Associations	63 (98%)

Search Filters — Customize how your results are displayed...

No Filter: Show All Associations (F)

Switch View: Summary | Table (G)

Displaying **75** total unique inte

SSK1 | YLR006C (H)
Cytoplasmic respons…or, part of a two-component signal transducer that mediates osmosensing via a phosphorelay mechar… (I) 4 [details]
dephosphorylated fo…graded by the ubiquitin-proteasome system; potential Cdc28p substrate

Experimental Evidence Code	Role	Publication	Throughput	Notes
Phenotypic Enhancement (J)	BAIT	Reiser V (2000)	Low Throughput	-
Synthetic Growth Defect (J)	BAIT	Sotelo J (2006) (K)	Low Throughput	(L)
Synthetic Lethality	BAIT HIT	O'Rourke SM (2004) Lee J (2002)	Low Throughput Low Throughput	- -

SPH1 | YLR313C, YLR312C-B
Protein involved in shmoo formation and bipolar bud site selection; homologous to Spa2p, localizes to sites of polarized growth in a cell cycle dependent- and Spa2p-dependent manner, interacts with MAPKKs Mkk1p, Mkk2p, and Ste7p — 2 [details]

HSC82 | YMR186W, HSP90
Cytoplasmic chaperone of the Hsp90 family, redundant in function and nearly identical with Hsp82p, and together they are essential; expressed constitutively at 10-fold higher basal levels than HSP82 and induced 2-3 fold by heat shock — 2 [details]

Experimental Evidence Code	Role	Publication	Throughput	Notes
Affinity Capture-Western (M)	HIT	Louvion JF (1998)	Low Throughput	-
Reconstituted Complex (M)	HIT	Flom GA (2008)	Low Throughput	-

DSE1 | YER124C
Daughter cell-specific protein, may participate in pathways regulating cell wall metabolism; deletion affects cell separation after division and sensitivity to drugs targeted against the cell wall — 2 [details]

STE12 | YHR084W
Transcription factor that is activated by a MAP kinase signaling cascade, activates genes involved in mating or pseudohyphal/invasive growth pathways; cooperates with Tec1p transcription factor to regulate genes specific for invasive growth — 3 [details]

CLA4 | YNL298W, ERC10
Cdc42p activated signal transducing kinase of the PAK (p21-activated kinase) family, involved in septin ring assembly and cytokines… (O) 1 1 [details]
directly phosphorylates septins Cdc3p and Cdc10p; other yeast PAK family members are Ste20p and Skm1p

THE END

THANK YOU