

Resource Summary Report

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PhenoM - Phenomics of yeast Mutants

RRID:SCR_006970

Type: Tool

Proper Citation

PhenoM - Phenomics of yeast Mutants (RRID:SCR_006970)

Resource Information

URL: <http://phenom.ccbr.utoronto.ca/index.jsp>

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Description: Database of morphological phenotypes caused by mutation of essential genes in *Saccharomyces cerevisiae*, it allows storing, retrieving, visualizing and data mining the quantitative single-cell measurements extracted from micrographs of the temperature-sensitive (ts) mutant cells. PhenoM allows users to rapidly search and retrieve raw images and their quantified morphological data for genes of interest. The database also provides several data-mining tools, including a PhenoBlast module for phenotypic comparison between mutant strains and a Gene Ontology module for functional enrichment analysis of gene sets showing similar morphological alterations. About one-fifth of the genes in the budding yeast are essential for haploid viability and cannot be functionally assessed using standard genetic approaches such as gene deletion. To facilitate genetic analysis of essential genes, we and others have assembled collections of yeast strains expressing temperature-sensitive (ts) alleles of essential genes. To explore the phenotypes caused by essential gene mutation we used a panel of genetically engineered fluorescent markers to explore the morphology of cells in the ts strain collection using high-throughput microscopy. The database contains quantitative measurements of 1,909,914 cells and 78,194 morphological images for 775 temperature-sensitive mutants spanning 491 different essential genes in permissive temperature (26* C) and restrictive temperature (32* C). The morphological images were generated by high-content screening (HCS) technology.

Abbreviations: PhenoM

Synonyms: Phenomics of yeast Mutants, Phenomics of yeast Mutants (PhenoM)

Resource Type: image collection, production service resource, data analysis service, service resource, database, analysis service resource, data or information resource

Defining Citation: [PMID:22009677](https://pubmed.ncbi.nlm.nih.gov/22009677/)

Keywords: phenomics, phenotype, yeast, mutant, cell, morphology, essential gene, gene, high-content screening, microscopy, micrograph, mutant cell, temperature-sensitive allele, allele, genetic analysis, blast, mutation, orf, actin, dna damage, nucleus, mitochondria, plasma membrane, mitotic spindle, bio.tools

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Canadian Foundation for Innovation LEF-21475

Availability: Free

Resource Name: PhenoM - Phenomics of yeast Mutants

Resource ID: SCR_006970

Alternate IDs: nlx_151489, biotools:phenom, r3d100012722

Alternate URLs: <https://bio.tools/phenom>, <https://doi.org/10.17616/R3GJ5J>

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Ratings and Alerts

No rating or validation information has been found for PhenoM - Phenomics of yeast Mutants.

No alerts have been found for PhenoM - Phenomics of yeast Mutants.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We have not found any literature mentions for this resource.