

COMMUNITY CURATION

USING THE COMMUNITY ANNOTATION TOOL (CANTO)

Antonia Lock

COMMUNITY CURATION

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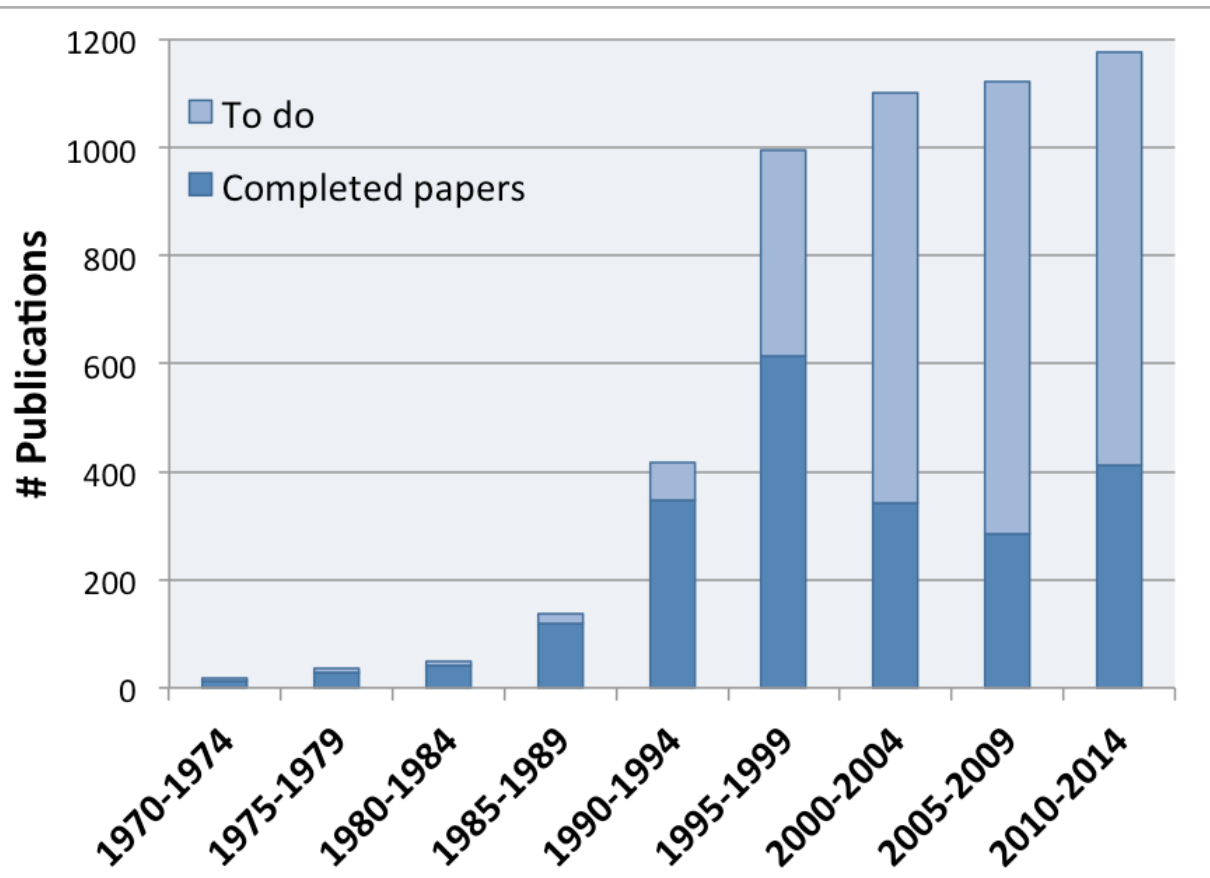
—Antonia Lock—
Midori Harris

COMMUNITY CURATION



- Authors supply draft annotations
 - Online community annotation tool: Canto
 - Curators review all submissions
-
- Launched 2012
 - 270 submissions to date

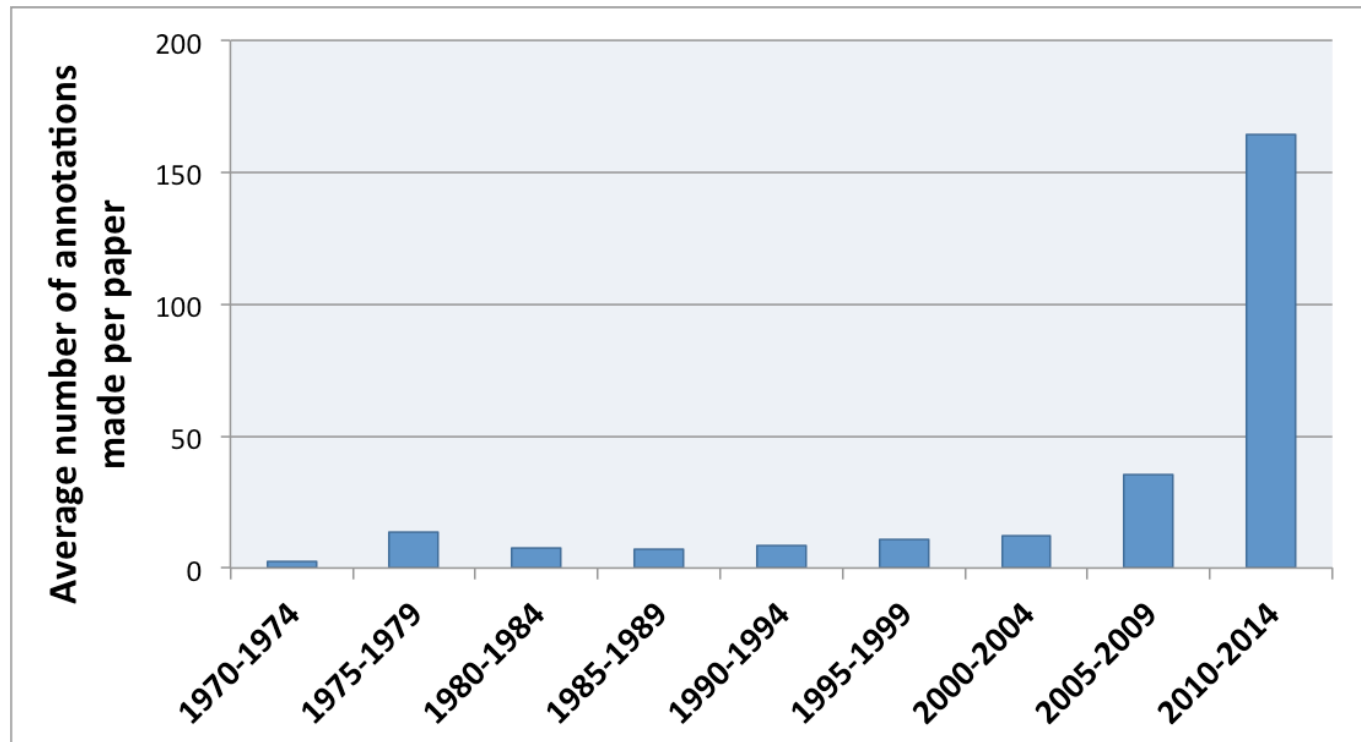
CURATION STATUS



- 5050 *S. pombe* publications contain information that we can curate
- We have completed 2200 of these (44%)

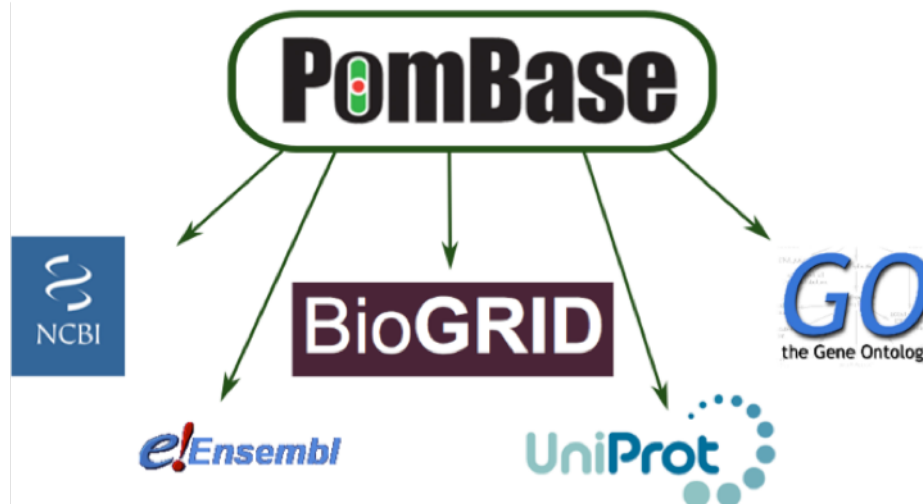
WHY?

- Number of *S. pombe* papers published each year has reached a plateau
- The amount of information contained in each paper has not!



WHY?

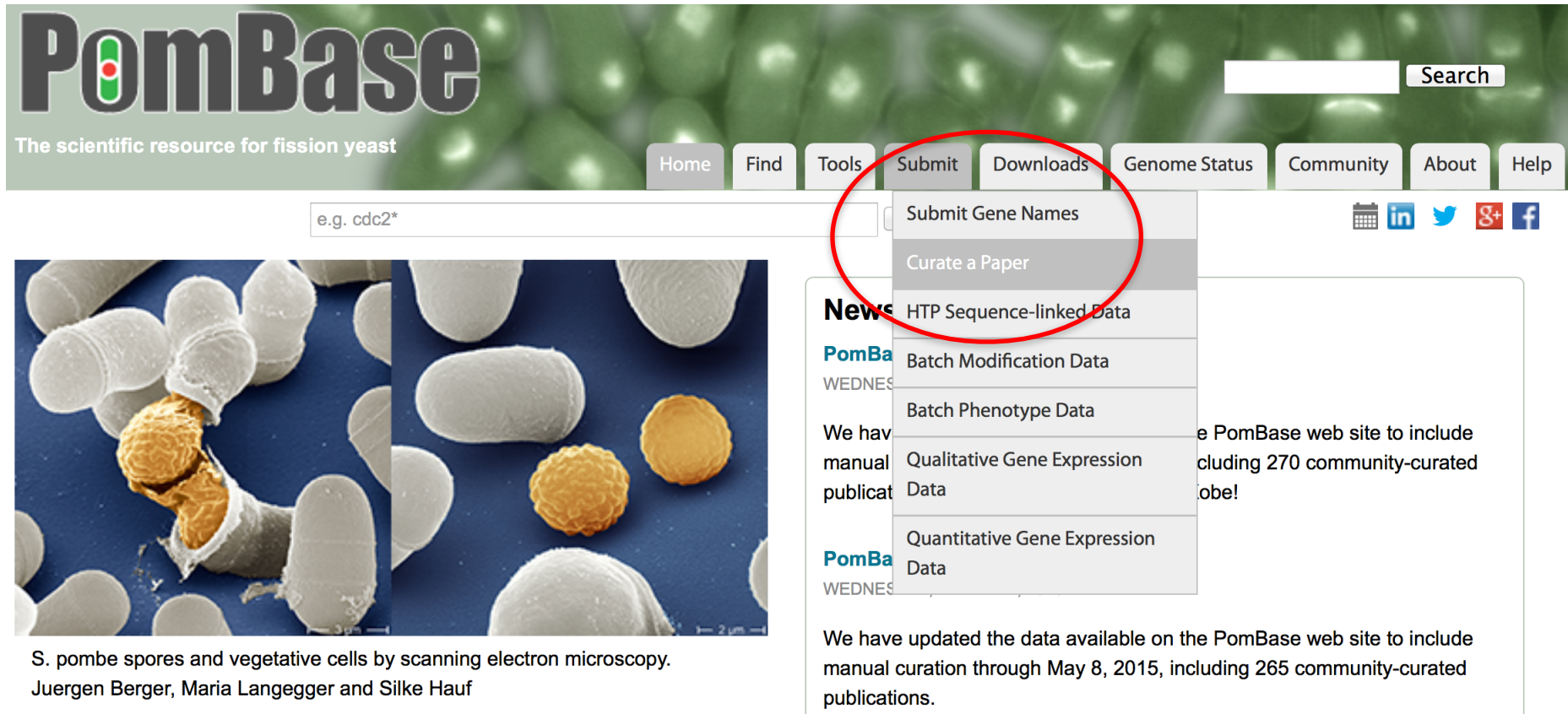
- Database benefits
 - Improved quality of annotations
 - Data assimilated more quickly
- User benefits
 - Improved understanding of formal data representation -> more efficient usage of database resources
 - Improved online visibility of publications due to information propagation



GETTING STARTED



- Click the link in the invitation email
- or
- Go to www.pombase.org

A screenshot of the PomBase website. The header features the PomBase logo and the tagline "The scientific resource for fission yeast". A search bar is on the right. A navigation menu includes links for Home, Find, Tools, Submit, Downloads, Genome Status, Community, About, and Help. The "Submit" link is circled in red, and a dropdown menu is open, showing options: "Submit Gene Names", "Curate a Paper", "HTP Sequence-linked Data", "Batch Modification Data", "Batch Phenotype Data", "Qualitative Gene Expression Data", and "Quantitative Gene Expression Data". Below the navigation bar, there is a search input field with the text "e.g. cdc2*", a social media bar with icons for LinkedIn, Twitter, Google+, and Facebook, and a "News" section. The "News" section contains two articles. The first article is titled "S. pombe spores and vegetative cells by scanning electron microscopy" and is attributed to Juergen Berger, Maria Langeegger and Silke Hauf. The second article is titled "We have updated the data available on the PomBase web site to include manual curation through May 8, 2015, including 265 community-curated publications." and is attributed to PomBase. The background of the website features a green, textured image of yeast cells.

PomBase
The scientific resource for fission yeast

Home Find Tools **Submit** Downloads Genome Status Community About Help

e.g. cdc2*

Submit Gene Names
Curate a Paper
HTP Sequence-linked Data
Batch Modification Data
Batch Phenotype Data
Qualitative Gene Expression Data
Quantitative Gene Expression Data

News

PomBa
WEDNES

We hav
manual
publicat

PomBa
WEDNES


We have updated the data available on the PomBase web site to include manual curation through May 8, 2015, including 265 community-curated publications.

S. pombe spores and vegetative cells by scanning electron microscopy.
Juergen Berger, Maria Langeegger and Silke Hauf

GETTING STARTED

PomBase

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- or
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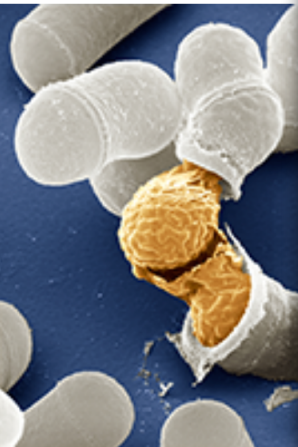


The scientific resource for

PomBase community curation tool

Curate genetic and molecular data from your publications

[Questions?](#) [Contact curators ...](#)



S. pombe spores and vegetative cells

Juergen Berger, Maria Lang et al.

Curate a paper for PomBase

Start curating using a PubMed ID:

Once you have found your paper, you can curate GO, phenotypes, interactions and protein modifications -- or reassign the paper to a colleague for curation. See the [help pages](#) for more information.

More about community curation

By curating your papers here, you will make your work more visible to the community. Your data will be available in PomBase and shared with other public databases. [Read more about the](#)

First time curator?

Find out about community curation and the types of data that can be curating by viewing our help pages:

Or try the demo version of Canto: curate using *S. pombe* gene IDs.

GETTING STARTED

Abstract ▼

Send to: ▼

Mol Genet Genomics. 2003 Jul;269(4):437-42. Epub 2003 Apr 2.

A defect in a fatty acyl-CoA synthetase gene, *lcf1*⁺, results in a decrease in viability after entry into the stationary phase in fission yeast.

Oshiro T¹, Aiba H, Mizuno T.

Author information

Abstract

An intriguing mutant was isolated in *Schizosaccharomyces pombe*, which is defective in the maintenance of viability after entry into the stationary phase. In the logarithmic growth phase, the mutant cells grow at the same rate as the parental cells. Upon the onset of the stationary phase, however, the mutant cells lose viability very rapidly. It was found that this phenotype was due to a mutational lesion in the *lcf1*⁺ gene, which encodes a long-chain fatty acyl-CoA synthetase. The *lcf1*^Δ mutant shows pleiotropic phenotypes, in that they are also sensitive to high temperature (37 degrees C) and to high salt concentrations (0.9 M KCl) in the medium. Based on the fact that *Lcf1* is highly homologous to *Faa1* and *Faa4* of *Saccharomyces cerevisiae*, both of which have previously been suggested to play roles in the maintenance of endogenous acyl-CoA pools, the possible function of *Lcf1* in *S. pombe* is discussed.

PMID: 12684881 [PubMed - indexed for MEDLINE]

GETTING STARTED

Abstract ▼

Mol Genet Genomics. 2003 Jul;269(4):437-42. Epub 2003 Apr 2.

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+ Author information

Abstract

An intriguing mutant was isolated in *Schizosaccharomyces pombe*, after entry into the stationary phase. In the logarithmic growth phase parental cells. Upon the onset of the stationary phase, however, the that this phenotype was due to a mutational lesion in the *lcf1+* gene synthetase. The *lcf1*Δ mutant shows pleiotropic phenotypes, in the degrees C) and to high salt concentrations (0.9 M KCl) in the medium to *Faa1* and *Faa4* of *Saccharomyces cerevisiae*, both of which have maintenance of endogenous acyl-CoA pools, the possible function of

PMID: 12684881 [PubMed - indexed for MEDLINE]

PomBase community curation

Curate genetic and molecular data from your

Curate a paper for PomBase

Start curating using a PubMed ID:

Find ...

Once you have found your paper, you can curate GO, phenotypes, interactions and protein modifications -- or reassign a paper to a colleague for curation. See the [help page](#) for more information.

More about community curation

By curating your papers here, you will make your work more visible to the community. Your data will be available in PomBase and shared with other public databases. Read

First time

Find out about the types of data we curate and our help pages.

Or try the demo using *S. pombe*.

GETTING STARTED



Create gene list for PMID:12684881

Please list the genes studied in this paper using the systematic identifier (eg. SPCC1739.10) or standard name (eg. cdc11) separated by commas, spaces, tabs or one per line.

lcf1
sty1

Back

Continue

☐ This paper does not contain any gene-specific information

SUMMARY PAGE



► PomBase Canto

► PMID:12684881 summary

PMID:12684881 summary

[Questions?](#) [Contact curators ...](#)

Genes and genotypes

Click on a gene name to start entering data

[lcf1](#)

[sty1](#)

[Edit gene list ...](#)

[Genotype management ...](#)

Publication details

ID

PMID:12684881



Title

A defect in a fatty acyl-CoA synthetase gene, lcf1+, results in a decrease in viability after entry into the stationary phase in fission yeast.

Authors

Oshiro T, Aiba H, Mizuno T

[Pause curation](#)

[Submit to curators](#)

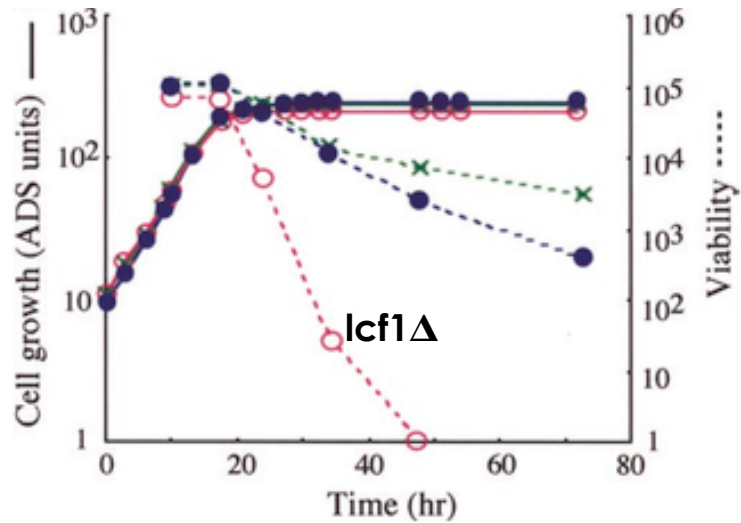
ADDING ANNOTATIONS



- All annotations are based on data from the publication

PHENOTYPE DATA

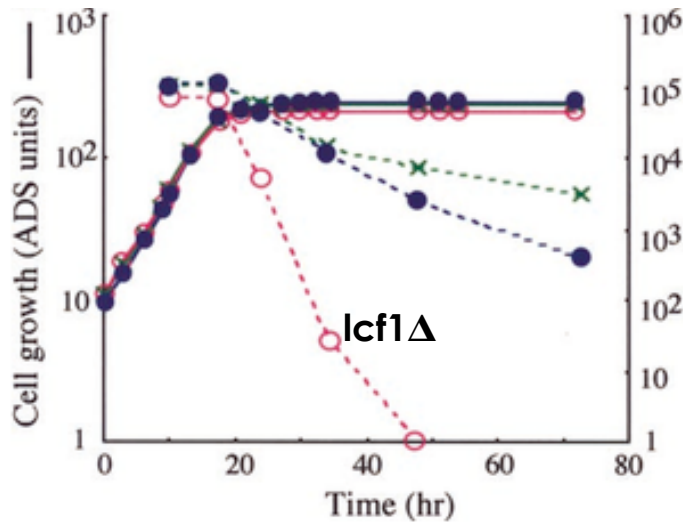
A



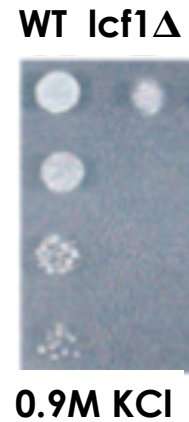
A: Loss of viability in stationary phase

PHENOTYPE DATA

A



B

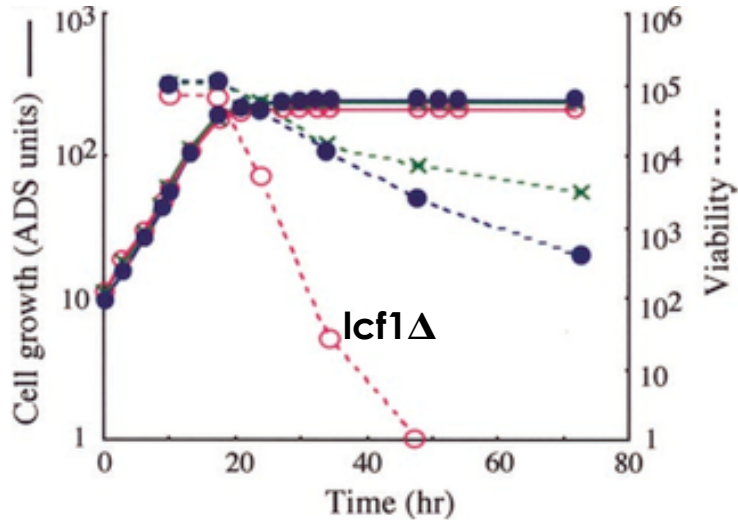


A: Loss of viability in stationary phase

B: Sensitive to salt stress

PHENOTYPE DATA

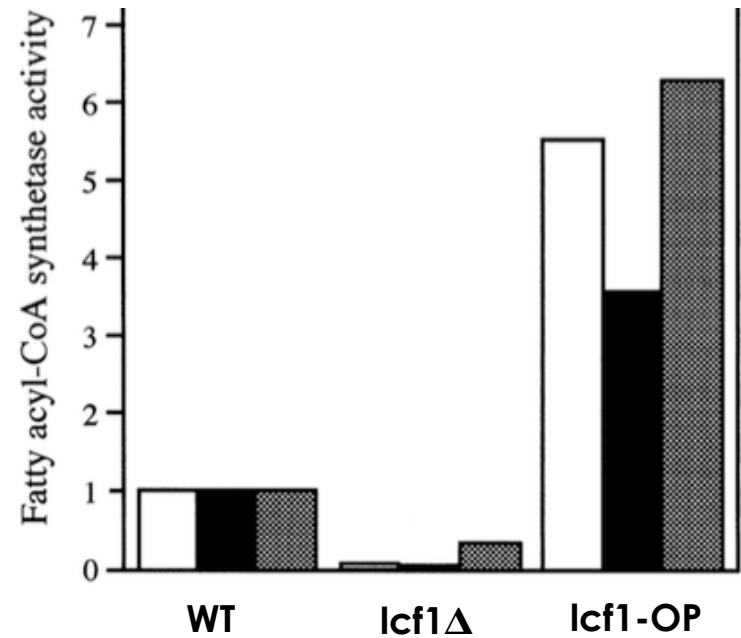
A



B



C



A: Loss of viability in stationary phase

B: Sensitive to salt stress

C: Decreased (*lcf1Δ*) and increased (*lcf1-OP*) fatty acyl-CoA synthetase activity in cell extracts

SUMMARY PAGE



► PomBase Canto

► PMID:12684881 summary

PMID:12684881 summary

[Questions?](#) [Contact curators ...](#)

Genes and genotypes

Click on a gene name to start entering data

[lcf1](#) 
[sty1](#)

[Edit gene list ...](#)

[Genotype management ...](#)

Publication details

ID	PMID:12684881
Title	A defect in a fatty acyl-CoA synthetase gene, lcf1+, results in a decrease in viability after entry into the stationary phase in fission yeast.
Authors	Oshiro T, Aiba H, Mizuno T



[Pause curation](#)

[Submit to curators](#)


CURATION TYPES

- ▶ [PomBase Canto](#)
- ▶ [PMID:12684881 summary](#)
- ▶ [Gene: lcf1](#)

Choose curation type for lcf1:


[GO molecular function](#)
[GO biological process](#)
[GO cellular component](#)
[Protein modification](#)
[Genetic interaction](#)
[Physical interaction](#)

Phenotypes:

[Single allele](#) (add allele details and phenotype) 
[Multiple allele](#) (specify a genotype, and then add a phenotype)

ALLELE DETAILS

PomBase

 **Canto** v842
Community curation

man79@carn.ac.uk Logout

► PomBase Canto
► PMID:12684881 s
► Gene: lcf1

Choose curation type

- GO molecular function
- GO biological process
- GO cellular component
- Protein modification
- Genetic interaction
- Physical interaction
- Phenotypes:
 - Single allele (add allele details and phenotype)
 - Multiple allele (specify a genotype, and then add a phenotype)

Allele details for lcf1

Allele name

Allele type

- wild type
- deletion**
- unknown
- mutation of single amino acid residue
- mutation of multiple amino acid residues
- partial deletion, amino acid
- partial deletion, nucleotide
- mutation of a single nucleotide
- mutation of multiple nucleotides
- nonsense mutation
- other

Please choose a type

Cancel OK

Genotypes for this gene

This session has 11 genotypes that include this gene.

[View list](#)

ALLELE DETAILS

Allele details for lcf1

Allele name

lcf1-E4

Allele type

mutation of single amino acid resid

Allele description

E576A

eg. K132A

Expression **Overexpression** ☐

Endogenous ☒

Knockdown ☐

Null ☐

Not specified ☐

Cancel

OK


GENOTYPES

- ▶ [PomBase Canto](#)
- ▶ [PMID:12684881 summary](#)
- ▶ [Gene: lcf1](#)

Choose curation type for lcf1:

[GO molecular function](#)
[GO biological process](#)
[GO cellular component](#)
[Protein modification](#)
[Genetic interaction](#)
[Physical interaction](#)

Phenotypes:

[Single allele](#) (add allele details and phenotype)
[Multiple allele](#) (specify a genotype, and then add a phenotype) 

GENOTYPES



► [PomBase Canto](#)

► [PMID:12684881 summary](#)

Add a genotype

Add alleles from the genes below until the genotype is fully specified.

Name:

Background:

[No alleles added yet]

Name	Identifier	
lcf1	SPBC18H10.02	Add allele ..
sty1	SPAC24B11.06c	Add allele ..

[Add another gene ...](#)

GENOTYPES

PomBase



mah79@cam.ac.uk

Logout Admin

► PomBase Canto
► PMID:12684881 s

► Contact curators

Add alleles from the

Name:

short genotype name

Background:

genotype background

Name	Identifier	
lcf1	SPBC18H10.02	Add allele ..
sty1	SPAC24B11.06c	Add allele ..

[Add another gene ...](#)

Allele details for lcf1

Allele name

Allele type

. Choose an allele type ...

wild type

deletion

unknown

mutation of single amino acid residue

mutation of multiple amino acid residues

partial deletion, amino acid

partial deletion, nucleotide

mutation of a single nucleotide

mutation of multiple nucleotides

nonsense mutation

other

Please choose a type

Cancel

OK

Cancel

Fin

TERM SEARCH

▸ PomBase Canto

▸ PMID:12684881 summary

▸ Genotype: lcf1delta

Ques

Search for phenotype term

Annotate normal or abnormal phenotypes, and the associated alleles. A phenotype is any observable characteristic or trait of an organism; examples include multinucleate, abnormal spindle, inviable. [more ...](#)

Start typing a phenotype in the search box. If you do not find the term you are looking for with your initial search, begin with a broad term (cell phenotype, multinucleate, abnormal spindle, inviable) [more ...](#)

[<- Back](#)

A: Loss of viability in stationary phase

TERM SEARCH

▸ PomBase Canto

▸ PMID:12684881 summary

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[<- Back](#)

A: Loss of viability in stationary phase

B: Sensitive to salt stress

C: Decreased (lcf1 Δ) and increased (lcf1-OP) fatty acyl-CoA synthetase activity in cell extracts

TERM SEARCH

► PomBase Canto

► PMID:12684881 summary

► Genotype: lcf1delta

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Start typing a phenotype in the search box. If you do not find the term you are looking for with your initial search, begin with a broad term (cell phenotype, multinucleate, abnormal spindle, inviable) [more ...](#)

loss of viability in stationary phase (FYPO:0000245)

loss of viability at low temperature (FYPO:0003903)

loss of viability at high temperature (FYPO:0001387)

normal **viability in stationary phase (FYPO:0001310)**

increased viability in stationary phase (FYPO:0001309)

loss of viability upon nutrient depletion (FYPO:0000244)

loss of viability upon glucose starvation (FYPO:0004162)

Term name

loss of viability in stationary phase

Definition

A cell population phenotype in which a smaller than normal proportion of the population remains viable after entering stationary phase.

TERM SEARCH

► PomBase Canto

► PMID:12684881 summary

► Genotype: lcf1delta

Search for phenotype term



Annotate normal or abnormal phenotypes, and the associated alleles. A phenotype is any observable characteristic or trait of an organism; examples include multinucleate, abnormal spindle, inviable. [more ...](#)

Start typing a phenotype in the search box. If you do not find the term you are looking for with your initial search, begin with a broad term (cell phenotype, multinucleate, abnormal spindle, inviable) [more ...](#)

sensitive to salt stress (FYPO:0000271)

sensitive to tacrolimus during salt stress (FYPO:0001749)

sensitive to arsenic (FYPO:0000093)

sensitive to benomyl (FYPO:0000094)

sensitive to bismuth (FYPO:0000758)

sensitive to cadmium (FYPO:0000096)

sensitive to calcium (FYPO:0000088)

Term name

sensitive to salt stress

Definition

A cell phenotype observed in the vegetative growth phase of the life cycle in which cells show increased sensitivity to a salt stress.

EVIDENCE & CONDITIONS



- PomBase Canto
 - PMID:12684881 summary
 - Genotype: lcf1delta
 - Search: "sensitive to salt stress"
 - sensitive to salt stress

Choose evidence and conditions for annotating lcf1delta with

Cell growth assay

Please add experimental conditions:

K

+ K ions

F

+ KCl

+ + KCl

+ YPD

Term name

+ KCl

Definition

An experimental condition in which potassium chloride was added to the medium or assay buffer in excess compared to standard medium or assay buffers.

liquid culture

<- Back

DUPLICATE (1)

phenotype

New single allele annotations for lcf1delta for PMID:12684881 [Add ...](#)

Genes	Genotype	Term ID	Term name	Evidence code	Conditions	Curator	
lcf1	lcf1Δ	FYPO:0000271	sensitive to salt stress	Cell growth assay	+ KCl	Antonia Lock <a.lock@ucl.ac.uk>	Edit Duplicate Delete
lcf1	lcf1Δ	FYPO:0000245	loss of viability in stationary phase	Cell growth assay		Antonia Lock <a.lock@ucl.ac.uk>	Edit Duplicate Delete

Edit fields to create a new phenotype annotation for lcf1 delta

Genotype

lcf1 delta

Term name

sensitive to salt stress

Evidence code

Cell growth assay

Please add experimental conditions:

+ KCl ✕

Type a condition ...

Previously used conditions (click to add to list):

+ + KCl

+ YPD

+ agar plates

+ glucose MM

+ liquid culture

Term suggestion

Name ...

Definition ...

Comment

Annotation extension

Curator

Antonia Lock <a.lock@ucl.ac.uk>

Cancel

OK

RETURN TO SUMMARY



- [PomBase Canto](#)
- [PMID:12684881 summary](#)
- [Genotype: lcf1delta](#)

Genotype: lcf1delta

[Question](#)

Actions ...

[Add a new phenotype for this genotype ...](#)

Genotype details

Name	[none]
Background	
Description	lcf1Δ

lcf1Δ - [lcf1](#)

[Edit ...](#)

[← Back to summary](#)

phenotype

New single allele annotations for lcf1delta for PMID:12684881 [Add ...](#)

Genes	Genotype	Term ID	Term name	Evidence code	Conditions	Curator
lcf1	lcf1Δ	FYPO:0000271	sensitive to salt stress	Cell growth assay	+ KCl	Antonia Lock <a.lock@ucl.ac.uk>
lcf1	lcf1Δ	FYPO:0000271	sensitive to salt stress	Cell growth assay	+ NaCl	Antonia Lock <a.lock@ucl.ac.uk>

[Edit](#)
[Duplicate](#)
[Delete](#)
[Edit](#)
[Duplicate](#)

DUPLICATE (2)

PomBase Canto

PMID:12684881 summary

Questions? Contact curators ...

PMID:12684881 summary

Genes and genotypes



Click on a gene name to start entering data

[lcf1](#)

[sty1](#)

[Edit gene list ...](#)

[Genotype management ...](#)

Publication details

ID

PMID:12684881



Title

A defect in a fatty acyl-CoA synthetase gene, lcf1+, results in a decrease in viability after entry into the stationary phase in fission yeast.

Authors

Oshiro T, Aiba H, Mizuno T

Pause curation

Submit to curators

phenotype

New single allele annotations for PMID:12684881 [Add ...](#)

Genes	Genotype	Term ID	Term name	Evidence code	Conditions	Curator
lcf1	lcf1Δ	FYPO:0000245	loss of viability in stationary phase	Cell growth assay		Antonia Lock <a.lock@ucl.ac.uk>

[Edit](#)

[Duplicate](#)

[Delete](#)

Edit fields to create a new phenotype annotation for lcf1delta

Genotype

Term name

Evidence code

Term suggestion

Comment

Annotation extension

Curator

Choose a genotype ...
E4(G310D)[Not specified]
..lcf1delta
sty1 delta
W376(W376->stop)[Not specified]
G490D(G490D)[Not specified]
G339D(G339D)[Not specified]
E464K(E464K)[Not specified]
G249D(G249D)[Not specified]
G457E(G457E)[Not specified]
W344(W344->stop)[Not specified]
lcf1+[Overexpression]
lcf1delta

+ + KCl

+ + NaCl

+ YPD

+ agar plates

+ glucose MM

+ liquid culture

Name ...

Definition ...

Antonia Lock <a.lock@ucl.ac.uk>

MAKING GO ANNOTATIONS



MAKING GO ANNOTATIONS



- Can be based on direct observations
 - e.g. enzyme assays using purified proteins
- Can be based on phenotypes
 - **Knock out** an enzyme with a predicted function and see the activity decrease
 - **Overexpress** an enzyme with a predicted function and see the activity increase

MAKING GO ANNOTATIONS



MAKING GO ANNOTATIONS



- Can be based on direct observations
 - e.g. enzyme assays using purified proteins
- Can be based on phenotypes
 - **Knock out** an enzyme with a predicted function and see the activity decrease
 - lcf1 Δ - decreased fatty acyl-CoA synthetase activity
 - **Overexpress** an enzyme with a predicted function and see the activity increase
 - lcf1-OP – increased fatty acyl-CoA synthetase activity
 - Also infer involvement in process: fatty acyl-CoA metabolism

MOLECULAR FUNCTION

- Lcf1 contains a synthetase/ligase protein domain
- Infer that Lcf1 itself performs this function

► PomBase Canto

► PMID:12684881 summary

► Gene: lcf1

Gei

Choose curation type for lcf1:



GO molecular function



GO biological process

GO cellular component

Protein modification

Genetic interaction

Physical interaction

Phenotypes:

Single allele (add allele details and phenotype)

Multiple allele (specify a genotype, and then add a

Search for GO molecular function term



A molecular function is a catalytic (e.g. protein serine/threonine kinase activity, pyruvate carboxylase activity) or binding activity, or any other activity that occurs at the molecular level. [more ...](#)

Start typing a molecular function in the search box. If you do not find the term you are looking for with your initial search, begin with a broad term (transporter, transferase activity) [more ...](#)

fatty-acyl-CoA synthase activity (GO:0004321)

fatty-acyl-ethyl-ester synthase activity (GO:0030339)

acyl-[acyl-carrier-protein] hydrolase activity (GO:0016297)

methylene-fatty-acyl-phospholipid synthase activity (GO:0004481)

cyclopropane-fatty-acyl-phospholipid synthase activity (GO:0008825)

fatty-acyl-CoA binding (GO:0000062)

fatty-acyl group transporter activity (GO:0015246)

Term name

fatty-acyl-CoA synthase activity

Definition

Catalysis of the reaction: acetyl-CoA + n malonyl-CoA + 2n NADH + 2n NADPH + 4n H⁺ = a long-chain acyl-CoA + n CoA + n CO₂ + 2n NAD⁺ + 2n NADP⁺.

BIOLOGICAL PROCESS

► PomBase Canto

► PMID:12684881 summary

► Gene: lcf1

Search for GO biological process term



A biological process is series of events accomplished by one or more ordered assemblies of molecular functions, such as cell cycle, transport, or signal transduction. [more ...](#)

Start typing a biological process in the search box. If you do not find the term you are looking for with your initial search, begin with a broad term (cell cycle, transport) [more ...](#)

fatty-acyl group transport (**GO:0015915**)

fatty-acyl-CoA transport (**GO:0015916**)

fatty-acyl-CoA catabolic process (**GO:0036115**)

fatty-acyl-CoA metabolic process (**GO:0035337**)

fatty-acyl-CoA biosynthetic process (**GO:0046949**)

long-chain **fatty-acyl**-CoA catabolic process (**GO:0036116**)

long-chain **fatty-acyl**-CoA metabolic process (**GO:0035336**)

Term name

fatty-acyl-CoA metabolic process

Definition

The chemical reactions and pathways involving a fatty-acyl-CoA, any derivative of coenzyme A in which the sulfhydryl group is in thiolester linkage with a fatty-acyl group.

TERM DETAILS

[Questions? Contact](#)

▸ [PomBase Canto](#)

▸ [PMID:12684881 summary](#)

▸ [Gene: lcf1](#)

▸ [Search: "fatty-acyl-CoA metabolic process"](#)

▸ [fatty-acyl-CoA metabolic process](#)

Please read the definition of the currently selected term to ensure that it accurately describes your gene:

ID	GO:0035337
Ontology	biological_process
Term name	fatty-acyl-CoA metabolic process
Definition	The chemical reactions and pathways involving a fatty-acyl-CoA, any derivative of coenzyme A in which the sulfhydryl group is in thiolester linkage with a fatty-acyl group.
Synonyms	fatty acyl CoA metabolic process fatty-acyl-CoA metabolism

View term ancestry in:



If possible, please refine your term selection. Clicking on a child term from the list below selects it and shows its definition (and children, if any):

[2-methylbut-2-enoyl-CoA\(4-\) metabolic process](#) ➔

[2-methylbutanoyl-CoA\(4-\) metabolic process](#) ➔

[3-methylbut-2-enoyl-CoA\(4-\) metabolic process](#) ➔

[L-methylmalonyl-CoA metabolic process](#) ➔

[fatty-acyl-CoA biosynthetic process](#) ➔

[fatty-acyl-CoA catabolic process](#) ➔

[isovaleryl-CoA\(4-\) metabolic process](#) ➔

[long-chain fatty-acyl-CoA metabolic process](#) ➔

[malonyl-CoA metabolic process](#) ➔



TERM DETAILS

[Questions? Contact](#)

▸ [PomBase Canto](#)

▸ [PMID:12684881 summary](#)

▸ [Gene: lcf1](#)

▸ [Search: "fatty-acyl-CoA metabolic process"](#)

▸ [fatty-acyl-CoA metabolic process](#)

Please read the definition of the currently selected term to ensure that it accurately describes your gene:

ID	GO:0035337
Ontology	biological_process
Term name	fatty-acyl-CoA metabolic process
Definition	The chemical reactions and pathways involving a fatty-acyl-CoA, any derivative of coenzyme A in which the sulfhydryl group is in thiolester linkage with a fatty-acyl group.
Synonyms	fatty acyl CoA metabolic process

View term ancestry in:



If you need a more specific term to describe the experiment you are annotating, and if none of terms above is appropriate, you can suggest a new term:

[Suggest a new child term for GO:0035337 ...](#)

[<- Back](#)

Otherwise, use the currently selected term:

[Proceed ->](#)

[L-methylmalonyl-CoA metabolic process](#) ➔
[fatty-acyl-CoA biosynthetic process](#) ➔
[fatty-acyl-CoA catabolic process](#) ➔
[isovaleryl-CoA\(4-\) metabolic process](#) ➔
[long-chain fatty-acyl-CoA metabolic process](#) ➔
[malonyl-CoA metabolic process](#) ➔



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 - ▶ PMID:12684881 summary
 - ▶ Gene: lcf1
 - ▶ Search: "fatty-acyl-CoA metabolic process"
 - ▶ fatty-acyl-CoA metabolic process
 - ▶ long-chain fatty-acyl-CoA metabolic process

Choose evidence for annotating lcf1 with

..Choose an evidence code ...

IMP

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You have made the following annotation:

Systematic identifier	Gene name	Term ID	Term name	Evidence code	With
SPBC18H10.02	lcf1	GO:0035336	long-chain fatty-acyl-CoA metabolic process	IMP	

Please provide any additional details you have about this process, such as:

i) Direct or indirect targets of the process, such as gene targets of transcriptional or translational regulation, protein targets of a localisation process, etc.

ii) The period or phase (e.g. during S phase; during sporulation) when the gene product acts in the process

The curators will record this additional information in PomBase.

Optional comment:

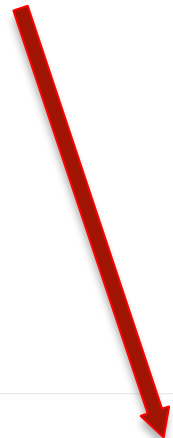
Optional annotation extension:

You can annotate other genes from your list with the same term and evidence by selecting genes below:

☐ **sty1 (SPAC24B11.06c)**

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Genes and genotypes



Click on a gene name to start entering data

[lcf1](#)

[sty1](#)

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Publication details

ID PMID:12684881

Title A defect in a fatty acyl-CoA synthetase gene, lcf1+, results in a decrease in viability after entry into the stationary phase in fission yeast.

Authors Oshiro T, Aiba H, Mizuno T



Pause curation

Submit to curators

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