

Dictyostelium discoideum

Dictyostelium discoideum Database (DictyDB)
<http://www-biology.ucsd.edu/others/dsmith/dictydb.html>

DICTYOSTELIUM DISCOIDEUM – OVERVIEW

EXAMPLES

GENES (LOCI)

Gene symbols comprise three lowercase italic letters. Different loci that mutate to give the same phenotype or are related by sequence are distinguished by a suffix of an uppercase italic letter.

(Note: Gene symbols that are not consistent with the Demerec¹ system do exist, e.g. *mrpC1*, but it is recommended that the Demerec system be followed so that conflicts with allele nomenclature are avoided, see 'Alleles'.)

eg *acpA acpB carC dscA lipA*

ALLELES

Alleles should be designated by serial unique isolation numbers.

Until the exact locus in which the mutation has occurred is known the locus letter should be replaced by a hyphen, but the same isolation number is retained.

Mutant and **wild-type alleles** can be distinguished by superscript minus and plus signs for emphasis, respectively.

Dominant and **recessive alleles**. There is no established system for distinguishing between allele types.

eg *aggA1 aggA2* etc.

eg *agg-3*
eg *agg⁻ aga⁺*

PROTEINS

Proteins are referred to by the relevant gene symbol, non-italic, initial letter uppercase.

Occasionally protein designations are at variance with this rule, e.g. proteins encoded by *rgaA* and *piaA* are designated RasGAP1 and Pianissimo, respectively (but this should be avoided according to the Demerec system).

eg AcpA AcpB CarC DscA LipA MrpC1

eg RasGAP1 Pianissimo

PHENOTYPES

Phenotypes are described by non-italic names (or occasionally symbols, e.g. *agg⁻*).

eg finger slugger rapidly developing

DICTYOSTELIUM DISCOIDEUM – DETAILS

EXAMPLES

GENES

Naming genes. Gene symbols abbreviate a word reflecting some property of the gene, such as the mutant phenotype or the protein product (initially devised by Demerec *et al.*¹).

Uncharacterized ORFs and/or **cDNA genes** are named with the prefix ORF or cDNA, respectively.

eg ORF1010 or cDNA1010

CHROMOSOMES

Six linkage groups are clearly defined and the six chromosomes to which they correlate are designated by non-italic Arabic numbers.

(Note: It is not yet clear whether linkage group 5 exists separately and as a result the original linkage group 7 is designated as chromosome 5 to avoid a gap in the chromosome numbering. Results from HAPPY mapping² should clarify this issue in the near future.)

There are no sex chromosomes. All chromosomes have a putative centromere near one end.

eg 1 to 6

PLASMIDS

There are a number of **natural plasmids** from which transformation vectors have been derived. Plasmids are designated by a prefix indicating the genus and species (Dd is *D. discoideum*; Dp is *D. purpureum*) followed by 'p' for plasmid and an Arabic (plasmid-specific) number, all non-italic.

Multiple isolates of the same plasmid are indicated by an uppercase suffix. (The sole exception to these rules is pDG1.)

eg Ddp1 Dpp1

DICTYOSTELIUM DISCOIDEUM – DETAILS

EXAMPLES

STRAIN DESIGNATIONS

Every strain should have a unique designation consisting of two or three uppercase letters (to indicate the lab in which it was isolated) and a serial number.

eg

HM44 NP12 HTY217

DICTYOSTELIUM DISCOIDEUM – RESOURCES

REFERENCES AND URLS

NOMENCLATURE INFORMATION

About 20 years ago the *Dictyostelium* research community formally agreed to use the Demerec system¹, although a nomenclature committee does not currently exist. All loci detailed on the published maps are renamed to conform to this style. The naming of proteins was never formally discussed within the *Dictyostelium* research community, but it is preferred that the Demerec system is followed.

WEBSITES

DictyDB contains a researcher address book, cDNA genes, REMI genes, genetic loci and physical maps.

Dictyostelium WWW Server contains a researcher database, *Dictyostelium* researcher email directory, abstracts of papers in press, (CSM Newsletter), vector sequences, gene sequences, the Franke database of Dicty literature, codon bias table, lab contacts and methods.

Tsukaba cDNA Project provides a clone summary and list of clones, sequences, sexual cDNA library, developmental cDNA library.

GENOME PROJECT

Currently there are three projects: a German initiative in Jena, by Angelika Noegel, headed by André Rosenthal; an EU initiative between Bart Barrell, Jeff Williams and Rob Kay; and a USA initiative by Adam Kuspa, Bill Loomis and Richard Gibbs.

CONTRIBUTORS

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- 1 Demerec, M. *et al.* (1966) A proposal for a uniform nomenclature in bacterial genetics *Genetics* 54, 61–76
- 2 Dear, P.H. and Cook P.R. (1993) Happy mapping: linkage mapping using a physical analogue of meiosis *Nucleic Acids Res.* 21, 13–20
- 3 Metz, B.A. *et al.* (1983) Identification of an endogenous plasmid in *Dictyostelium discoideum* *EMBO J.* 2, 515–519
- 4 Orii, *et al.* (1987) A new type of plasmid from a wild isolate of *Dictyostelium* species: the existence of closely situated long inverted repeats *Nucleic Acids Res.* 15, 1097–1107

DictyDB

<http://www-biology.ucsd.edu/others/dsmith/dictydb.html>

WWW Server

<http://dicty.cmb.nwu.edu/dicty/dicty.html>

Tsukaba

<http://www.csm.biol.tsukuba.ac.jp/cDNAproject.html>