### Dictyostelium discoideum — Overview

#### 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 Demerec 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'.)

#### 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.

#### 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).

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

### Dictyostelium discoideum — Details

#### 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.

#### 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 mapping\(^2\) should clarify this issue in the near future.)
  - There are no sex chromosomes. All chromosomes have a putative centromere near one end.

#### 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 a '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.)
### DICTYOSTELIUM DISCOIDEUM – DETAILS

#### 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.

#### DICTYOSTELIUM DISCOIDEUM – RESOURCES

### NOMENCLATURE INFORMATION
About 20 years ago the Dictyostelium research community formally agreed to use the Demerec system, 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.

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### REFERENCES AND URLS


**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