

7.013 Genetic Nomenclature
David Gifford and Megan Rokop
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Goals

- Be simple and consistent
- Not encode inappropriate information
- Encompass Mendel's plant genetics
- Encompass gene linkage
- Encompass sex-linked traits
- Minimize confusing differences with Purvis et. al.

Principles

- For each area of study, we will endeavor to provide a table of the form:

Character "pea shape"	Phenotype smooth wrinkled	Dominance smooth > wrinkled	Genotypes S S, S s, S S s s
Allele Abbreviation	Full Name of Gene / Allele		
S	SBE1		
s	Sbe1-1		

Nomenclature rules

- Character: Sentence
- Phenotype: single word, begins with lower case letter, at least two characters, can be hyphenated. + and – modifiers can be added to further describe a phenotype (e.g. Arg-cells can not grown on medium without Arg). **+ and – modifiers are not used on genes or alleles.**
- Gene: single word, begins with upper case letter, at least two characters. An UPPER CASE gene name denotes the wild type form of a gene, or in the case of human, the sequence that is in the human genome database.
- Allele: Gene suffixed with dash and a numeral, indicating the allele.
- Allele Shorthand: single character
- Dominance: binary relationship between related phenotypes of a character.

Genotypes

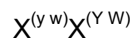
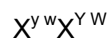
- Unless otherwise specified by the genotype, all of the genes in an organism are assumed to be wild type
- If there is a non wild type allele, then all of the alleles of that gene are specified. The following two notations are identical:

S s
SBE1 Sbe1-1

- Autosomal linked genes are written in their chromosomal order, alleles on homologous chromosomes are separated by a "/", and the entire linkage group is optionally surrounded by parenthesis.

B V / b v
(B V / b v)

- Sex linked genes are written as superscripts on their respective chromosome in chromosomal order. Parenthesis around the linked genes can be added for clarity.



Note that when genes do not appear on a specific sex chromosome they are omitted.

- Linked alleles can also drawn on a genetic map:

B 17 cm V
