Worm Nomenclature 101
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Outline for *C. elegans* Nomenclature

I. Lab Identification

Strain code for naming strains
  Morimoto AM
  Sydney Brenner CB
  Bob Horvitz MT
  Cynthia Kenyon CF

Allele code for mutations/transgenes
  Morimoto *rm*
  Sydney Brenner *e*
  Bob Horvitz *n*
  Cynthia Kenyon *mu*

II. Gene Names

Rule: - 3 or 4 letters, hyphen, number
        - italicized
        - lowercase
        - *followed by linkage group (chromosome)

Example: *unc-54 I*
          let-858 II

*These statements are recommendations not rules.

III. Allele/Mutations

Rule: - every mutation has a unique allele assignment
- italicized letter(s) followed by arabic number
- use gene name followed by allele in ()
- *mutations that are temperature sensitive can be
designated as ts following allele name
- *wildtype alleles have + sign in ()
- if deletion takes out more than one gene *Df*
- knockout consortium allele codes are *ok*, *bc*, *tm*

Example: *unc-30(rm7)*   *daf-16(mgDf50)*
            unc-15(e1402ts)   *dpy-5(+)*

IV. Transgenes

Rule: - Italicized name with allele *(rm)* prefix, *Ex* and a number
- Integrated arrays are *Is*
- Mossci arrays are *Si*
- *Can be followed by square brackets with genotypic
or molecular information
- *Reporter strains: transcriptional or translational fusions generally not defined;
can have p for promoter; gene name followed by two colons and the reporter.

Example: *rmIs18[dpy-5(+)unc-54p::GFP]* I made up this strain.
        vha-6::GFP
        vha-6p::GFP

V. CRISPR

Rule:
- gene name for location of CRISPR insertion followed by ()
containing an allele name
- *Can be followed by brackets containing insertion information
- *Can be followed by chromosome number.

Example: *lgg-1(rm17[lgg-1::mcherry]) II*.
    This nomenclature denotes the endogenous lgg-1 locus tagged with
mcherry.

VI. Multiple Mutations in a Strain

Rule: - listed sequentially according to linkage
       - different linkage groups separated by semicolon
       - Heterozygotes: separate mutations on the two homologous chromosomes with a
       slash; can use + sign for wildtype

Example: *lin-12(n137) III; him-5(e147) V*
          dpy-5(e61) unc-13(+)/dpy-5(+) unc-13 (e51) I

VII. Protein/RNA Names

Rule: For Protein, refer to gene name
       - non-italicized and capitalized
       - those with alternate splicing get letter
       - mutant proteins are referred to by the change
       For mRNA, refer to it as the protein's mRNA
       For non-coding RNA, use gene name

Example: UNC-54   PQE-1(P79Q)
             PQE-1A   UNC-54 mRNA levels
             PQE-1B   *let-7* mRNA

VIII. Phenotypes

Rule: - non-italicized 3 or 4 letter abbreviation
       which usually corresponds to a gene name
       - first letter is capitalized
       - when referring to wildtype call it non-
       - RNAi phenotype use gene name with *(RNAi)*

Example: Unc   non-Unc   *mog-4(RNAi)*
          Dpy   Daf
          Osm   Muv

IX. Strain Names

Rule: - nonitalicized names consisting of 2 or 3
         capital letters followed by a number
       - every cross requires a new strain name
       - back crossing does not (specify in database).
       - each independent extrachromosomal array
         line has a new strain name
       - each independent integrated array has a
         new strain name

Example: AM565
              CF1057

X. TEST

- *daf-16* mutant number 86 from Cynthia Kenyon's lab. *daf-16* is on
chromosome I
- Crossed to strain expressing a promoter fusion of *C12C8.1*
to GFP marked with a *rol-6* dominant mutant with allele number
1006 from Henry Epstein's lab with an allele designation (*su*)
integrated on chromosome II
- Inject an extrachromosomal array using HSF-1 tagged with RFP
under its own promoter
- Generate 3 lines

Our strain data base last entry: AM702
Our last entry for arrays: *rmIs47* and *rmEx182*

What is/are the Strain Name(s?) and genotype(s?)?

Answers: