

Data obtained at Stanford on mutants sensitive to high osmotic pressure provide evidence for the following five loci: os-1 (IR), os-2 (IVR), or-4 (IL), os-5 (IR), and cut (IV). In our hands, flm-2 (flame-2) maps in IL and is probably allelic

with os-4. We have not found evidence for other loci among the available osmotic mutants.

or-1. Located between nic-1 and arg-13 in IR (Perkins et al., 1969 Genetica 40: 247).

Alleles: 8135, E1200 and many others. NM233(t) is heat-sensitive.

os-2. Located right of cot-1 in IVR (Perkins et al. 1969 Genetica 40: 247).

Allele: ALS10.

or-4. Linked to mating type, probably proximal to it in IL. Definitely left of his-2 because not covered by duplications from T(IR→VL)AR190.

Alleles: NM2010. Probable allele: Y256M223 (flm-2), which maps in the same vicinity as NM2010 and is infertile with it. Data on NM2010 are heterogeneous; recombination with mating type is sometimes low (2% in 3 crosses pooled), sometimes high (20% in 4 crosses pooled). Stocks used before 1969 were lost, and a new isolate was extracted from the original NM201 strain. Data on Y256M233 are homogeneous and more extensive. If proved allelic it might be preferable to NM2010 as a standard allele. Y256M223 shows no linkage with markers near the right end of I.

os-5. Located very near al-2 in IR. Right of cyh-1, left of al-1 and horn.

Alleles: NM2160 and P5341.

cut: Located in IV between cys-IV and pyr-1, probably in left arm. Point-mutant LLMI gives no os⁺ recombinants when crossed with T(I;IV)cut of Kuwana (1953, 1954, 1960). We have never succeeded in separating the cut factor from the translocation in Kuwana's strain.

Alleles: Point-mutant LLMI. Reciprocal translocation T(I;IV)cut. (LLMI shows no linkage to markers in I.)

These os mutants can all be scored reliably on the basis of morphology, except that cut resembles wild type under some circumstances, e.g., high humidity (Kuwana 1953). Temperature and medium also affect cut morphology. Visual scoring of cut has been accomplished on non-moist slants of Vogel's medium N in 10 x 75 mm tubes at 34°C.

Linkage data are given in Table 1. The usual conventions are followed: the top number of each pair of complementary classes represents progeny of the genotype having the wild-type allele of the leftmost marker. Regions are numbered from left to right. Where dashes replace numbers, the corresponding classes were not scored. Gene symbols in parentheses indicate that markers were not scored or were ignored in the tabulation. [Table 1 is on the following page.]