Corrections to the Neurospora Compendium

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Abstract
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Brief Notes

Be aware when heat shocking ascospores from crisp mutants of Neurospora crassa.

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This laboratory has been working with a new crisp mutant of Neurospora crassa, crisp-5 isolated in our laboratory by Charlene Jackson (Jackson, 1992 MS Thesis: 1-123) by ultraviolet irradiation. It is known that the conidia of another crisp mutant, crisp-1, have constitutive thermotolerance (Cruz et al., 1988 Curr. Genet. 13,451-454). Based on this information, we tested the conidia of crisp-5 were tested for thermotolerance. This experiment was designed to determine if the heat shock temperature and time, 60 °C for 30 minutes, used to induce germination of ascospores, was sufficient to prevent germination of conidia with subsequent vegetative growth. To mimic the heat shocking conditions encountered when isolating ascospores, a moistened swab was put into slant cultures of crisp-5 and wild type (74-OR23-1A) and conidia were spread onto a 4% (w/v) agar slab. Small squares were cut out of the middle of the slab and placed in 10x 75mm culture tubes containing 1ml each of the crossing medium of Westergaard and Mitchell (1947 Am. J. Bot. 34:573-577), then heat shocked in a water bath for 30 minutes at 60°C. The cultures were then incubated for up to 19 days at ambient temperature. Hyphal growth was observed in all tubes with crisp-5 but in none of the tubes with wild type. When performing crosses with new mutant strains, it is advisable to test the heat shock effect before heat shocking ascospores since vegetative growth not killed during the heat shocking period might cause skewed results when scoring crosses.

Corrections to the Neurospora Compendium

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col-6 (pp. 50, 218): The know col-6 mutation, now listed in IV, is associated with a translocation, T(III;IV)S1302 col-6. The col-6 gene may therefore be located either in III or in IV.

col-18 (pp. 50, 226): Change "Between un-23 (3/28) and T(OY320)" to "Right of un-23 (3/28) and T(OY320)".

cys-3 (pp. 61, 214): Change "Between ro-7, pi ((4%) and T(AR18)J, pyr-4 (18%; 21%) (1414, 1580, 1592)" to "Between pi (4%), T(AR18)J and T(AR18)K, pyr-4 (18%; 21%) (1414, 1546; C. O. Miceli, N. MirRashad and M. L. Smith, personal communication)".

lys-3 (p. 101): A description of lys-5 was incorrectly substituted for that of lys-3. The correct lys-3 description should read as follows (essentially unchanged from the 1982 compendium):

"Uses lysine or e-hydroxynorleucine. Probably blocked in conversion of α-aminoadipate to α-aminoadipate semialdehyde, based on precursor utilization (751, 2113) (Fig. 40). Complementation can occur between alleles (20). Ascospores are white and inviable in homozygous lys-3 × lys-3 crosses, but some heteroallelic crosses are fertile (20). Inhibited by methionine."

The lys-3 entry is correct in other respects.

T(OY320) (p. 227): Change "Between un-23 and ws-1" to "Between un-23 and col-18, ws-1".

Figure 55 (p. 148): In the next-to-last line of the legend, change qa-1S to qa-X.

Linkage Group VI map (p. 226): T(OY347) and T(OY343) were omitted from the drawn map, at the left and right ends, respectively.