

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

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Abstract

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.

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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.