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Abstract
The mutant overaccumulator of carotenoids, ovc, which we obtained from the Fungal Genetics Stock Center, had been reported by Harding, et al. (1984 Neurospora Newsl. 31:23-25) to be in the right arm of LG IV between col-4 and met-5. Examination of ovc in our laboratory revealed that in addition to having increased pigmentation, ovc was also osmotic sensitive and allelic to cut.

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Allelism of the mutants ovic and cut of Neurospora crassa

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The mutant overaccumulator of carotenoids, ovic, which we obtained from the Fungal Genetics Stock Center, had been reported by Harding, et al. (1984 Neurospora Newsl. 31:23-25) to be in the right arm of LG IV between col-4 and met-5. Examination of ovic in our laboratory revealed that in addition to having increased pigmentation, ovic was also osmotic sensitive and allelic to cut.

During a study of pigmentation mutants of Neurospora crassa, we obtained cultures of the mutant, overaccumulator of carotenoids, ovic (S20-16), from the Fungal Genetics Stock Center. Because our laboratory is also interested in osmotic-sensitive mutants which fail to grow on medium with elevated concentrations of NaCl, we make it a practice to test all strains we are working with for the osmotic-sensitive trait. When growth tested on Westergaard-Mitchell medium supplemented with 6% NaCl [W-M (6% NaCl)], ovic failed to grow, indicating that in addition to increased pigmentation, it was also osmotic sensitive.

The ovic locus was reported (Harding, et al. 1984 Neurospora Newsl. 31:23-25) to be in the right arm of LG IV between col-4 (about 10% recombination) and met-5 (about 14% recombination). Since the osmotic-sensitive mutant, os-2, is also in LG IV near the reported locus of ovic, we next carried out a complementation test with ovic and os-2 on the salt-supplemented medium. The observation of growth indicated complementation and non-allelism of the two mutants.

Another osmotic-sensitive mutant, cut, is in LG IV, but in the left arm. In addition to being osmotic-sensitive, this mutant also exhibits increased pigmentation and an altered morphology with the aerial hyphae all ending at the same level in the culture tube, hence, the designation cut. Visually, cultures of ovic were found to be indistinguishable from those of cut. Complementation tests carried out between ovic and cut were negative, consistent with allelism of the two mutants.

Ascospores from a cross of ovic to cut were picked individually and the resulting 171 progeny were subcultured onto W-M (6% NaCl). None of the progeny grew on the salt medium and thus, no wild-type recombinants were recovered. Ascospores from the same cross were also mass plated directly onto W-M (6% NaCl) in order to allow the recovery of larger numbers of wild-type recombinants. No such recombinants were recovered from the approximately 24,712 ascospores plated. These results support allelism of ovic and cut. Since cut is in the left arm of LG IV, these mapping data differ from those of Harding, et al. (1984) which placed ovic in the right arm of LG IV. In light of these more recent data, we suggest that the map position of ovic be changed to the left arm of LG IV, allelic to the cut locus.

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