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cr sn: the significance of macroconidiation for mutant hunts

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Abstract

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Perkins (1971 Neurospora Newsl. 18: 12) noted that cr (crisp, B123) sn (snowflake, C136) stocks grow on solid media as compact colonies which produce conidio. He also predicted their usefulness for mutant hunts. The cr sn stock that we obtained from the Fungal Genetics Stock Center, FGSC#2002, produces chains of macroconidia which do not readily separate. This phenotype is due to a third single gene mutation in that stock. We refer to this new gene as csp-2 (conidial separation defective, allele UCLA 101). The gene is unlinked to cr or sn (or csp-1), and the phenotype can be scored, with or without a cr sn background, by the "top test" (Selitrennikoff and Nelson 1973 Neurospora Newsl. 20: following note).

cr sn csp-2 and cr sn csp-2$^+$ derivatives each hove useful properties for the examination of individual colonies in a large population. cr sn csp-2$^+$ colonies can be accurately replica plated with velveteen covered blocks. A single velveteen master is used to faithfully print the location of each colony onto ten or more additional plates by transfer of conidia. There secondary plates can contain media which test directly the properties of the transferred conidio, or which test the properties of colonies that grow from the transferred conidia. Plate cultures of confluent cr sn csp-2$^+$ colonies are also on excellent source of macroconidia. One 9 cm culture yields ca. 5 x 10^9 conidia. On the other hand, conidiating colonies of cr sn csp-2 on plates con be exposed individually to ony "test" medium, in situ, by adding the medium in a soft agar overlay. The overlay is poured without disturbing the chains of conjoined conidia. Therefore, cross contamination of colonies, via freed conidia, is minimized.

We have capitalized on the described properties of there stocks to isolate single gene mutants which lock NAD(P) glycohydrolase activity (EC 3.2.2.6). (Supported in part by UCLA Medical Sciences Research Fund to P. T. Cohen and on NSF grant to R.W. Siegel)- • • Department of Biology, University of California, Los Angeles, California 90024.