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Designation of newly identified mutagen-sensitive mutations in Neurospora crassa and their linkage data

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Abstract

Two years ago, Dr. Käfer and Dr. Schroeder independently summarized genetic information on mutagen-sensitive mutants in Neurospora crassa (Fungal Genetics Newsletter 35:11-13, 1988; DNA Repair 3:77-98, 1988). So far, 30 genetic loci related to mutagen-sensitivity have been indentified. The mutants are more sensitive to UV, X-rays and/or chemical mutagens than the wild-type strain. We have studied DNA-repair mechanisms of Neurospora for several years. During the study, several mutagen-sensitive mutants were isolated and the mutations were mapped. To confirm that they are mutations in new genes, we tested allelism between these mutations and previously reported mutagen-sensitive mutations. Here, new mutations are listed and new mus numbers are given to them as follows.

Designation of newly identified mutagen-sensitive mutations in *Neurospora crassa* and their linkage data

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allele (isolation #)	gene#	linkage group (near marker)	sensitivity UV	MMS
SA11	mus-31	IR (ad-3B)	0	S
SA32	mus-32	IR (ad-3B)	S	S
SA33	mus-33	VII (met-7)	S	S
SA18	mus-34	VR (am)	S	S
SA50	mus-35	VII (nic-3)	0	S
SA51	mus-36	IV (pan-1)	0	S
SA52	mus-37	V (cyh-2)	0	S
SA56	mus-38	IL (leu-3)	S	0

0 - similar to wild type
S - more sensitive than wild type

In Fungal Genetics Newsletter 35:11-13, 1988, *mus(FK131), mus(FK132)* and *mus(FK133)* were not yet mapped. We have mapped the mutations and tested allelism with other mutagen-sensitive mutations. The results showed that both *mus(FK131)* and *mus(FK132)* are allelic to *mus-21*. The *mus(FK133)* mutant has a mutation in a new gene, located in linkage group VI (8% to *ylo-1*). Thus *mus(FK133)* has been designated *mus-39*. These new mutants will be characterized for mutagen-sensitivity, mutagenesis, meiosis and fertility.