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Differential revertibility of me-1 alleles.

This note reports chemical mutagenesis experiments similar to those of Malling, de Serres, and co-workers with ad-3B. The four alleles of me-1 studied (2-3, 2-4, 2-65, 17-M154) were induced by Barry with nitrous acid. A presumed me-1 allele, 35599, which has been shown to be non-allelic although functionally related (Aiuto 1969 Genetics 61:s53), was also studied. The me-1 gene is relatively small and its alleles are largely non-complementing (Aiuto, unpublished data).

Table 1: Spontaneous and induced reversion rates of five methionine-requiring strains (prototrophs per 10^6 surviving conidia).*

Strain	Spont.	NA	MNNG	ICR-170	EMS	OMHA
me(35599)	0.00	0.00	0.00	0.00	0.00	0.00
me-1(2-3)	0.29	0.27	0.20	0.75	0.80	0.66
me-1(2-4)	0.00	0.13	0.21	0.00	0.00	0.00
me-1(2-65)	0.22	13.30	21.40	2.77	12.50	12.40
me-1(17-M154)	0.00	0.00	1.80	7.86	5.21	0.81

*complete data available from senior author.

Methods used were those described by Malling and de Serres (1966 Mutat. Res. 3:470; 1968 Mutat. Res. 5:359; 1968 Mutat. Res. 6:181; and pers. commun.) The sample of ICR-170 was obtained from H. J. Creech, Institute for Cancer Research, Philadelphia, Pa. The results are presented in Table 1.

As in the ad-3B work (Kilbey, et al. 1971 Mutat. Res. 12:47), some indications of the original type of mutant lesion can be made: possible gene deletion (35599, UV-induced), non-revertible alleles (2-3 and 2-4), base substitution (2-65), and base addition or deletion (17-M154). Twenty additional me-1 alleles are being tested with the five mutagens.

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