Allison, M. A method for detection of suppressor genes closely linked to the suppressed locus.

Diepoxybutane-induced reversions to adenine independence at the odeninc-34 locus (allele 38701) of N. crassa were examined for closely linked suppressor mutations. The scheme used screened against parental type ascospores, allowing only crossovers in a small region surrounding the ad-3A locus to germinate in the selective medium.

The revertont was buck-crossed to on od-3A (38701), nic-2 (43002) strain and homocaryotic ad-3A revertont, nit-2 progeny were isolated. The nis-2 locus, approximately 3 mop units distal to ad-3A, provided one closely-m marker. The adenine-independent, nit-2 strain was then crossed to a strain carrying the mutant allele hist-2 (Y152M14) which is approximately 2 mop units proximal to the ad-3A locus. The progeny were plated on a medium supplemented with adenine only. Consequently the only survivors were the products of crossovers between the hist-2 ond nit-2 loci.

+	ad-3A revertant?	nit-2
hist-2	+	+

Around 10,000 spores were tested from one such cross. 27 of the 259 crossovers recovered proved to be odcnine-requiring. One adenine-requirer isolated from this revertont showed the very strong mutational response to diepoxybutane which is specific for adenine-3A (38701). The results suggest that there is a suppressor gene located approximately 0.54 map units distal to the ad-3A locus.

In 1955, Kølmark ond Giles found no evidence for suppressors of ad-3A (38701). Since, however, they examined only about 100 ascospores fmm each revertant, they could not exclude closely linked suppressors. - - - Institute of Animal Genetics, University of Edinburgh, West Mains Rood, Edinburgh 9, Scotland.