

defective in one of the earliest events in the sporulation process. Three preinduction mutants have been isolated and characterized. Each was found to exhibit the same pleiotropic phenotype: they also were defective in sexual sporulation and secreted a set of phenolic metabolites at a level much higher than did wild type or mutants blocked at later stages of conidiation. One of the metabolites has been identified as the antibiotic diorcinal (3,3'-dihydroxy-5,5'-dimethyldiphenyl ether) which is known to be involved in the synthesis of certain farnesyl phenols of unknown function. These results suggest that preinduction mutants are blocked in a phenolic metabolic pathway, one or more product of which participates in the initiation of sporulation.

8: J Bacteriol 1984 Nov;160(2):541-5

Genetic analysis of mutants of *Aspergillus nidulans* blocked at an early stage of sporulation.

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Three mutants of *Aspergillus nidulans*, selected to have a block at an early stage of conidiation (asexual sporulation), exhibit similar pleiotropic phenotypes. Each of these mutants, termed preinduction mutants, also are blocked in sexual sporulation and secrete a set of phenolic metabolites at level much higher than wild type or mutants blocked at later stages of conidiation.

Backcrosses of these mutants to wild type showed that the three phenotypes always cosegregated.

Diploids containing the mutant alleles in all pairwise combinations were normal for all phenotypes, showing that the three mutations are nonallelic. This conclusion was confirmed by the finding that the mutations map at three unlinked or distantly linked loci. Ten revertants of the two least leaky preinduction mutants, selected for ability to conidiate, were found in each case to arise by a second-site suppressor mutation. All of the revertants

still showed accumulation of some of the phenolic metabolites but differed from each other in certain components. Three of the revertants retained the block in sexual sporulation. In these cases the suppressor has thus uncoupled the block in asexual sporulation from the block in sexual sporulation.

These results are understandable in terms of a model in which preinduction mutations and their suppressors affect steps in a single metabolic pathway whose intermediates

include an effector specific for asexual sporulation and a second effector specific for sexual sporulation.

9: Dev Biol 1982 Sep;93(1):92-103

Temperature-shift analysis of conidial development in *Aspergillus nidulans*.

Yager LN, Kurtz MB, Champe SP.