

**Title** Oxidative Damage Involves in the Inhibitory Effect of Nitric Oxide on Spore Germination of *Penicillium expansum*

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#### **Abstract**

The effects of nitric oxide (NO) on spore germination of *Penicillium expansum* were investigated and a possible mechanism was evaluated. The results indicated that NO released by sodium nitroprusside (SNP) significantly suppressed fungal growth. With the use of an oxidant sensitive probe and Western blot analysis, an increased level of intracellular reactive oxygen species (ROS) and enhanced carbonylation damage were detected in spores of *P. expansum* under NO stress. Exogenous superoxide dismutase (SOD) and ascorbic acid (Vc) could increase the resistance of the spore to the inhibitory effect of NO. The activities of SOD and catalase (CAT), as well as ATP content in spores under NO stress were also lower than those in the control. We suggest that NO in high concentration induces the generation of ROS which subsequently causes severe oxidative damage to proteins crucial to the process of spore germination of *P. expansum*.

<http://www.springerlink.com/content/j2u2103488729983/fulltext.pdf>