

NITRIC OXIDE DETECTION BY DIAMINOANTHRAQUINONE FLUORESCENCE IN *ARABIDOPSIS THALIANA* FLOWERS

Seligman, K.¹; Pinto-Maglio, C. A. F.²; Salgado, I.¹

¹Departamento de Bioquímica, IB, Universidade Estadual de Campinas, SP, Brazil; ²Centro de Genética, Biologia Molecular e Fitoquímica, Instituto Agrônomo de Campinas, SP, Brazil.

Nitric oxide (NO) was recently identified as one of the endogenous signals involved in flowering process. We have previously used the fluorescent NO probe diaminofluorescein diacetate (DAF-2DA) to identify the sites of NO synthesis during flower development. However, DAF fluorescence may also result from reaction with other species. In order to confirm whether fluorescence emission detected in the floral organs of *A. thaliana* resulted from NO production, here we used, in addition to DAF-2DA, the NO fluorescent probe diaminoanthraquinone, and analyzed the effect of the NO-scavenger CPTIO in preventing fluorescence emission. The results showed that fluorescence of the probes, prevented by the NO scavenger, was restricted to immature stigmatic papillae in the gynoecium and to pollen grains released from anthers in the stamen. The developmental stage where NO was detected correspond to that immediately preceding pollination. We have also noticed that *A. thaliana* mutant plants, that are deficient in NO production in their leaves, show the same pattern of NO emission in the floral organs. However, these mutant plants anticipate floral transition, 6 days in average, compared to wild type plants. These results suggest that NO may have an important role in flowering process and successfully plant reproduction. *Supported by FAPESP*