

Nitric Oxide as a Growth Promoter in Embryogenic Cells of *Araucaria Angustifolia*

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In recent years nitric oxide (NO) has emerged as an important endogenous signalling molecule that mediates many developmental and physiological processes in plants. Recent studies have demonstrated the regulation by polyamines on NO biosynthesis in plants. In somatic embryogenesis of *Araucaria angustifolia* polyamines were related with morphological evolution and NO biosynthesis. Huge advances achieved recently in elucidating the role of NO in plants have been made possible by the application of NO donors. The aim of this work was to study the NO effects on cellular growth, morphology and NO biosynthesis in embryogenic cultures of *A. angustifolia*. Sodium nitroprusside (SNP) and [Ru(NO)(Hedta)] complex were used as NO donors, and PTIO (2-(4-carboxyphenyl)-4,4,5,5-tetramethylimidazoline-1-yl-3-oxide) as NO scavenger. Our results indicate that both NO donors stimulated the cellular growth of embryogenic cultures in *A. angustifolia*, and the application of NO scavenger, PTIO, inhibited this response. NO donors stimulated the growth of embryonic-like cells, which also had more endogenous NO, compared with suspensor cells. The cellular growth was correlated with an increase in endogenous NO levels, especially in NO donors treatments, suggesting a *de novo* NO synthesis, probably responsible for the maintenance of the cellular division in *A. angustifolia* embryogenic cultures. (Supported by FAPESP, CNPq, CAPES and FAPERJ).