

DIFFERENTIAL EXPRESSION IDENTIFICATION OF *COFFEA ARABICA* PROTEINS THROUGH THE SOMATIC EMBRYOGENESIS BY PROTEOMIC ANALYSIS

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Somatic embryogenesis is a high efficient technology that utilizes tissues cultures in order to obtain embryos by somatic cells. In this report, we performed proteomic analyses of *Coffea arabica* embryos from different developmental stages (globular, terpedo and cotyledons) in order to better understand coffee plant development. Two-dimensional gels were carried resolving 87 spots for globes, 185 spots for terpedoes and 215 spots for cotyledonary stage. Globular phase spots were mainly composed by neutral and basic components, while other developmental phases showed a wide pl range. Otherwise, molecular mass analyses were very similar on three gels, showing a wide variety of proteins from 10 to 115 kDa. Peptide mass fingerprinting strategy was usefully to identify 10 different proteins, including mitogen-activated protein kinase kinase 2 (MKK2), responsible for cell growth, and differentiation and also a MADS box protein 3, responsible for transcription regulation. The understanding of *Coffea* micropropagation process can be useful for future development of genetic improvement of several cultivars in molecular levels, leading to development of crops with enhanced commercial values.

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