**CLONING AND EVALUATION OF EXPRESSION OF SOMATIC EMBRYOGENESIS RECEPTOR KINASE (*SERK*) GENE OF *COFFEA CANEPHORA* AND *THEOBROMA COCOA* L.**

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Somatic embryogenesis is a process whereby somatic cells develop into plants via morphological differentiation stages toward application of exogenous growth regulators. Several species have a well-characterised somatic embryogenesis system. *C. canephora* and *C. cacao* show response through exogenous application of 2,4 dichlorophexiacetic acid in appropriated conditions. During somatic embryogenesis a set of genes are expressed and coordination between them is required in order to develop competent cells. *Serk* is one of these genes which is highly expressed during embryogenic cell formation in culture. In the present study we used degenerated primers within conserved regions according to Clustaw-W analysis. Combination of these primers was done in order to amplify the gene. We have obtained clones with five combinations of these primers. These clones were sequenced and showed more than 87% identity within core sequences of kinase domain for *T. cacao* and *C. canephora* compared to sequences using tBlastn search. We have extracted mRNA from two types of tissue to evaluate, thought RT-PCR, the expression of the gene during somatic embryogenesis in cacao and coffee. We have analysed the *serk* gene expression in non-induced leaves and embryogenic callus from induced leaves from coffee, and non-induced staminoids and induced staminoids from cacao. Expression of the *serk* gene has been observed in induced tissues but not in primary tissues. Future studies will be focused on the process of somatic embryogenesis with the aim of understanding the biological process of embryos formation in coffee and cacao.

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