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APYRASE AS A POSSIBLE MOLECULAR MARKER IN THE *IN VITRO* TUBERIZATION OF *SOLANUM TUBEROSUM* CV. DESIRÉE

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Abstract

A good model for studying the control of genetic expression in cellular differentiation during initial tuberization is to induce potato tuber growth *in vitro*. A tissue culture method for propagating potato callus (cv. Desirée) was established, using modified MS medium in the presence of 2,4-D. The growth kinetics of the callus, expressed as dry wt in function of time, was very low. After 4 mo, a proliferation of shoots, roots, and micro-tubers was obtained in a medium without 2,4-D, and enhanced by shaking the culture and adding 5% sucrose. Shoots were used to regenerate complete plantlets by *in vitro* culture of nodal sections. A cellular line culture was also obtained by mechanical disruption of the potato callus. In this system, we could detect a biochemical differentiation when the cellular suspension was submitted to conditions inducing tuberization. Apyrase, which was induced under tuberization conditions, was detected by Western blot analysis; therefore, this enzyme could be a molecular marker of the differentiation process during *in vitro* tuberization.

Note: This manuscript was incomplete (copies of the figures were mislaid)