

Investigating the Successes of in vitro Embryogenesis

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Abstract : The in vitro isolated microspore culture is the most powerful androgenic pathway to produce doubled haploid plants in the short time. To deviate a microspore toward embryogenesis, a number of factors, different for each species, must concur at the same time and place. Once induced, the microspore undergoes numerous changes at different levels, from overall morphology to gene expression. Induction of microspore embryogenesis not only implies the expression of an embryogenic program, but also a stress-related cellular response and a repression of the gametophytic program to revert the microspore to a totipotent status. As haploid single cells, microspore became a strategy to achieve various objectives particularly in genetic engineering. In this communication we would show the most recent advances in the producing haploid embryos via in vitro isolated microspore culture.

Keywords : in vitro isolated microspore culture, success, haploid cells, bioinformatics, biomedicine

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