

Bioconversion of hydroquinone to arbutin in F3K *Digitalis purpurea* cell line

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Abstract. The capacity of the F3K *Digitalis purpurea* cell line to biotransform hydroquinone into β -arbutin was tested. The experimental protocol involved the sequential addition of hydroquinone to the culture medium, and testing different precursor (4-, 5-, and 6 mM) and sucrose concentrations (3 % and 6 %) under different lighting conditions (16-hour photoperiod and darkness). The biotransformation process was positively influenced by the photoperiod regime and increased sucrose concentration. The highest arbutin production (1 g/L) has been achieved in cell suspensions fed with 6% sucrose and 5 mM hydroquinone, under 16 hours daily light exposure.

Keywords: hydroquinone; arbutin production; *Digitalis purpurea* (L.); cell suspensions.

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