Abstract

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This paper focused on the study of biotransformation activity of suspension culture *Datura meteloides* DC. ex Dunal after addition of arbutin exogenous precursor hydroquinone into nutrient medium. The percentage of arbutin content was tested depending on the type and concentration of growth regulator in nutrient medium (IAA, IBA – concentrations of 0,1; 1,0; 10,0 mg/l), concentration of arbutin precursor hydroquinone (100 and 200 mg/l) and intervals between collection of samples for analysis, i.e. cultivation time with precursor (24, 48, 168 hours). Culture transformed hydroquinone into arbutin regardless of the type and concentration of growth regulator, precursor concentration and the length of the experiment. The highest percentage of arbutin content in culture extract (8,11 %) was detected after 24 hour cultivation using hydroquinone in concentration of 200 mg/l and growth regulator IAA in concentration of 0,1 mg/l. The presence of arbutin was also detected in nutrient medium after 48 and 168 hours (0,68 %). In most cases, cultures using hydroquinone in concentration of 200 mg/l had higher production of arbutin than those with concentration of 100 mg/l. Usage of growth regulator IAA brings higher yields of arbutin compared to growth regulator IBA.

Keywords: explant culture, biotransformation, precursor hydroquinone, arbutin