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Improvement of salidroside productivity with *Rhodiola sachalinesis* A. Bor cell cultures by plant growth regulators

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Objectives

We have focused on improvement of salidroside production in liquid suspension culture of *R. sachalinesis*. The effects of plant growth regulator on calluses growth and salidroside production were investigated.

Materials Methods

1. Plant materials : Liquid-cultivated calluses of *R. sachalinesis*

2. Methods : The experiments were performed in 100ml flasks containing 30ml medium on 100rpm. The medium was composed of 2B5 basal medium supplemented with various concentrations of plant growth regulators (NAA, BA, kinetin, GA₃, TDZ, Zeatin, spermine and spermidine). After cultivation, biomass and salidroside content were determined.

Results and Discussion

Various combinations of auxin (NAA) and cytokinin (BA, kinetin) for salidroside production were tested. When 1mg/L NAA and 5mg/L BA were added to the medium, both calluses growth and salidroside content were increased. In the secondary experiment, to investigate the effect of GA₃, TDZ, Zeatin, spermine and spermidine on salidroside production, they were added to the basal medium including 1mg/L NAA and 5mg/L BA. The optimal salidroside yield was obtained from the medium supplemented with 1mg/L NAA, 5mg/L BA and 0.1mg/L GA₃.