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## Effect of Cytokine and Putrescine on Regeneration of *Rhodiola sachalinensis*

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### Objective

*Rhodiola sachalinensis* A. Bor. (Crassulaceae) (Korean: Go-san-hong-kyung-cheon) is one of the most popular traditional medicine in Chinese. Salidroside, a bioactive compound of *R. sachalinensis*, has been shown to possess the medical functions such as resisting anoxia, microwave radiation and fatigue. Recently, it is considered to be a strong antioxidant and anti-carcinogen. Despite this potentiality as medicine materials, there are few reports. Therefore, this study was carried out to determine the proper plant growth regulators on regeneration of *R. sachalinensis*.

### Materials and Methods

Plant material: Seeds of *R. sachalinense* were collected from the Chang Bai mountain in China.

Methods: Plant regeneration processing from leaf explants (BA or kinetin 1, 3, 5, 7 mg/L) + Putresin (50, 100, 150, 200 mM).

### Results and Discussion

In order to develop an efficient direct plant regeneration technique for medicinal plant species, *R. sachalinense* leaf cultures were conducted on MS medium supplemented with cytokinins (BA, Kinetin). Generally, BA (61%) was better than kinetin (25%) on multiple shoot induction from leaves, whereas 1 mg/L BA and 200 mM putrescine showed more effective on multiple shoot induction. *In vitro* rooting and shoot elongation was achieved on MS medium containing 30 g/L sucrose and 3.5 g/L gelrite (pH 5.7). Plantlets after acclimatization were successfully transplanted in the pots.