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Characteristics of *in vitro* Cultured *Lilium tsintauense* var. *flavum*

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Objectives

This study was conducted to propagate bulb scales of *Lilium tsintauense* var. *flavum* using *in vitro* tissue culture system, and some of factors were determined for bulblets propagation. Then, we evaluate effect of proton-ion beam irradiation on growth responses of the *in vitro* cultured bulblets.

Materials and Methods

1. Materials: Bulb scales of *Lilium tsintauense* var. *flavum*
2. Methods: Culture medium- MS or modified MS medium
Concentration of sucrose- 3%, 6%, 9%, 12%
AFLP analysis- Mace *et al.* (1999)

Results and Discussion

Bulb scales of *Lilium tsintauense* var. *flavum* were successfully cultured and the number of bulb scales derived from bulblet was twelve per bulblet on MS medium containing 1.0mg/L BA and 0.1mg/L NAA. The numbers of bulblets were higher in the deem light and low temperature (20±2°C) than those of full light and 25±2°C. When the bulblets were cultured on different concentration of sucrose, the fresh weight of bulblets was somewhat increased in 6% and 9% sucrose treatment. When proton beam was irradiated with the bulblets from 1Gy to 30Gy, there was nothing significant changes in growth. But root formation was inhibited over 2.5Gy of the irradiation intensity. AFLP analysis of the *in vitro* cultured bulblets was carried out, also.

Table 1. Effect of sucrose concentration on growth characters of bulb in *Lilium tsintauense* var. *flavum*.

Concentration(%)	No. of bulblet	Fresh weight
3%	3.7±1.64	0.7±0.27
6%	2.9±1.20	1.0±0.40
9%	3.6±1.84	1.0±0.20
12%	2.0±0.94	0.7±0.18

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