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Hairy root induction of *Momordica cochinchinensis* (Lour.) Spreng.

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Abstract

Momordica cochinchinensis is a highly nutritious plant, with lycopene and beta-carotene in the seed coat. These compounds are secondary metabolites that plants create to protect themselves from environmental stresses. Due to the number of extracts from naturally grown plants are often unstable and uncertain. Also, they may be insufficient quantity for market demand. Hairy root culture technique can increase productivity. This research interested in hairy root culture, therefore, this study aimed to investigate hairy root induction of *M. cochinchinensis* by using *Agrobacterium rhizogenes* strain ATCC 15834 and TISTR 511. Two strains of bacteria could induce hairy roots in *M. cochinchinensis* which roots emerged from a node and stem of explants. *RolB* genes of hairy roots were detected by PCR analysis. The length of the *rolB* genes was 700-800 bp. After investigation of hairy roots growth for a while, they stopped growing and turned brown until dead. However, this study can be used as basic information for the improvement of hairy root induction from *M. cochinchinensis*.

Keywords: *Momordica cochinchinensis* (Lour.) Spreng., *Agrobacterium rhizogenes*, Hairy root culture, Secondary metabolite