

AGROBACTERIUM RHIZOGENES MEDIATED INDUCTION OF HAIRY ROOTS IN COLEUS FORSKOHLII FOR EXTRACTION OF FORSKOLIN

SAHU R N¹, CHOUDHURY A K², ANURADHA M³ & INDU B K⁴

^{1,2}Research Scholar, Department of Botany, Ranchi University, Ranchi, Jharkhand, India

^{3,4} Research Scholar, Padmashree Group of Institutions, Bangalore University, Bangalore, India

ABSTRACT

Coleus forskohlii, a medicinally important plant of the Labiatae (Lamiaceae) family was investigated for shoot organogenesis, direct regeneration and induction of hairy root using the soil bacterium MTCC 2364 strain of *Agrobacterium rhizogenes*. Nodal stem and leaf were initiated on basal MS medium with 6-benzyl amino purine (BAP) 0.5, 1.0, 2.0 mg/L. Shoot generated from such effective combinations was co-cultivated with the bacterium in vitro. Extensive hairy roots were induced from the shoots and leaf within 15-18 days. These roots were then established on MS basal broth medium. Maximum concentration of Forskolololn on the specific day of culture of hairy roots was estimated and compared to the authentic standard Forskololn concentration in HPLC. The concentration of Forskololn was observed to be maximized in 14th day old culture (116 mg/Kg Dry Cell Weight) and the content was found to decrease gradually thereafter towards day 30.

KEYWORDS: *Coleus Forskohlii*, Hairy Root Culture, *Agrobacterium Rhizogene*, Forskololn