

ISOLATION AND MOLECULAR CHARACTERIZATION OF PLANT GROWTH PROMOTING RHIZOBACTERIA FROM THE HIGH ALTITUDE HIMALAYAN REGION OF UTTARAKHAND

Prashant Singh^{1,7}, Deep Chandra Suyal², Naveen Kumar³, Manish Dev Sharma⁴, Indra Rautela⁵, Aditya Patel,⁶ Narottam Sharma⁷ and Veena Pandey¹

¹Department of Biotechnology, Bhimtal Campus, Kumaun University, Nainital, Uttarakhand

²Department of Microbiology, Govind Ballabh Pant University of Agriculture & Technology, Pantnagar, Uttarakhand.

³Molecular Cytogenetics Laboratory, Department of Molecular Biology & Genetic Engineering, Govind Ballabh Pant University of Agriculture & Technology Pantnagar.

⁴Department of Life Sciences, Shri Guru Ram Rai Institute of technology & Science, Dehradun

⁵Uttaranchal College of Applied and Life Sciences, Uttaranchal University, Dehradun

⁶Devsthali Vidhyapeeth, Lalpur, U S Nagar

⁷Central Molecular Research Laboratory, Biochemistry Department, Shri Guru Ram Rai Institute of Medical & Health Sciences, Dehradun
Email: Veena_kumaun@yahoo.co.in

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Abstract: The objective of this study was to isolate and characterize a rhizospheric bacterium from Munsyari, (2200 feet, 30.06°N/80.23° E) Uttarakhand, western Himalayas, (India). Plant growth promoting rhizobacteria (PGPR) are known to influence plant growth by various direct or indirect mechanisms. Isolated strain was tested for various PGP traits like 1-aminocyclopropane-1-carboxylate (ACC) deaminase activity, phosphate solubilisation, indole acetic acid production, production of siderophore, carbohydrate utilization test. Bio-control ability of isolate was also screened. Further identification of isolate was performed by PCR based 16S rRNA gene sequencing. The isolate PS03 was found to be most effective.

Keywords: Rhizobacteria, Isolation, Molecular, Himalaya region

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