

## Purification and Characterization of Phycoerythrin from a Mesophilic Cyanobacterium *Nostoc piscinale* PUPCCC 405.17

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**Abstract :** Phycoerythrin (PE) from the mesophilic filamentous cyanobacterium *Nostoc piscinale* PUPCCC 405.17, a good producer of phycobiliproteins, has been characterized in terms of their unit assembly and stability. The phycoerythrin was extracted by freeze-thawing the cells in water, concentrated by ammonium sulphate fractionation and purified by anion exchange chromatography. The purification process resulted in 2.90 fold increase in phycoerythrin purity reaching to 1.54. Sodium Dodecyl Sulphate- Polyacrylamide Gel Electrophoresis of purified PE demonstrated three protein bands of 14.3, 27.54 and 39.81 kDa. The native PE also showed one band of 125.87 kDa, assumed to be a dimer ( $\alpha\beta$ ) $_2$  $\gamma$  based on results of non-denaturing PAGE. Lyophilized powder PE was more stable compared to phycoerythrin in the solution. The half-life of dry PE is 80 days when stored at 4 °C under dark. The phycoerythrin from this organism has potential applications in food as natural colour and as a fluorescent marker.

**Keywords :** characterization, *Nostoc piscinale*, phycoerythrin, purification

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