

Isolation and Molecular Identification of Cyanobacteria from Caspian Seawater in Tonakabon Coast

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Background & Objectives: The cyanobacteria are the only photosynthetic bacteria that generate O₂ during photosynthesis and they are from a variety of single cell to filament. They exist in freshwater and seawater. Identification of new species due to the production of secondary important metabolites is valuable. Goals: molecular identification of cyanobacteria species in the Caspian sea coast region tonekabon.

Methods: Seawater samples were collected from the Tonekabon Coast, and was enriched in the BG11 Broth, they purified on solid and semi-solid medium. Identify, performed by PCR and with specific primer 16SrRNA cyanobacteria. Germanium dioxide, Imipenem and Cycloheximide were used for purification. To investigate the effect of imipenem in purification, imipenem there was not in some of medium.

Results: The strain isolated was *Synechococcus elongatus* PCC7942 and was purified on semi-solid medium without imipenem.

Conclusion: *Synechococcus elongatus* PCC7942 is a single-celled cyanobacteria and is living in freshwater. because there is input of rivers to the sea in different areas of the coast, so, the isolated strain can be entered of river to the sea.

Keywords: Cyanobacteria; Photosynthesis; BG11; PCR

