

# **Production of a Peptidoglycolipid Bioemulsifier by *Pseudomonas aeruginosa* Grown on Hydrocarbon**

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A strain of *Pseudomonas aeruginosa* isolated from a polluted soil was found to produce an extracellular bioemulsifier when cultivated on hexadecane as sole carbon source. The emulsifier was precipitated with acetone and redissolved in sterile water. Dodecane, crude oil and kerosene were found to be good substrates for emulsification by the bioemulsifier. Growth and bioemulsifier production reached the optimal levels on the fourth and fifth day, respectively. Emulsifying activity was observed over a pH range of 3.5 to 10.0 with a maximum at pH 7.0. The activity of the bioemulsifier was heat stable up to 70 °C while about 50 percent of its activity was retained at 100 °C. The components of the bioemulsifier were determined, it was found to contain carbohydrate, protein and lipid. The protein complex was precipitated with ammonium sulphate and fractionated on a Sephadex G-100. Gel electrophoresis of the bioemulsifier showed a single band whose molecular weight was estimated as 14,322 Da. The bioemulsifier was classified as a peptidoglycolipid. Certain strains of *P. aeruginosa* produce peptidoglycolipid in place of rhamnolipid.