

Isolation and characterization of a *Pseudomonas* diesel-degrading strain from Antarctica

ABSTRACT

A diesel-degrading bacterium from Antarctica has been isolated. The isolate was tentatively identified as *Pseudomonas* sp. strain DRYJ3 based on partial 16SrDNA molecular phylogeny and Biolog® GN microplate panels and Microlog® database. Growth on diesel was supported optimally by ammonium sulphate, nitrate and nitrite. The bacterium grew optimally in between 10 and 15°C, pH 7.0 and 3.5% (v/v) diesel. The biodegradation of diesel oil by the strain increased in efficiency from the second to the sixth day of incubation from 1.4 to 18.8% before levelling off on the eighth day n-alkane oxidizing and aldehyde reductase activities were detected in the crude enzyme preparation suggesting the existence of terminal n-alkane oxidizing activity in this bacterium.

Keyword: Antarctica; Diesel degradation; *Pseudomonas*