

## BIOCHEMICAL IDENTIFICATION OF MICROBIAL PRODUCERS OF BIOSURFACTANTS ISOLATED FROM AGRÍ-INDÚSTRIAL EFFLUENTS

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The great metabolic diversity of the genus *Pseudomonas* becomes possible its the use in the treatment of environmental contaminations. This project aims to identify morpho-biochemically and molecularly species of *Pseudomonas* which were isolated from the industrial wastewater of a sugar-cane company in Coruripe, Alagoas, which were able to produce lycolitic enzymes and surfactants. Thus, cultures of the 3 isolates of *Pseudomonas* spp. from such effluent were identified using the following enzymatic and biochemical tests:  $\beta$ -galactosidase, arginine-dihydroxilase, lysine-decarboxilase, ornitine-decarboxilase, urease, triptophane-deaminase, gelatinase, cithochrome-oxidase, catalase, nitrate-redutase; production of indol and acetoin; utilization of citrate; fermentation/oxidation of glucose, manitol, inositol, sorbitol, rhamnose, sacharose, melibiose, amygdaline and arabinose; production of H<sub>2</sub>S and of fluorescent pigments at different wavelengths; growth in 6,5% NaCl; growth at 4 and 42°C; growth in caseine; motility. From these tests, it was concluded that the 3 isolates belonged to the species *P. fluorescens*, *P. putida* e *P. aeruginosa*. The production of the biosurfactant produced by these isolates was evaluated in a medium described by Siegmund & Wagner (1991), which contained KH<sub>2</sub>PO<sub>4</sub>; Na<sub>2</sub>HPO<sub>4</sub>; NaNO<sub>3</sub>; MgSO<sub>4</sub>; CaCl<sub>2</sub>; Agar; FeSO<sub>4</sub>; MnSO<sub>4</sub>; (NH<sub>4</sub>)<sub>6</sub>MnO<sub>7</sub>; Cethyltrimethylammonium Bromide and Metilene Blue. The higher extracellular production of the rhamnolipide was observed with the isolate from *P. aeruginosa* from the studied effluent, appointing its potential to be used in a synergistic association with other microorganisms to its bioremediation.

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