

# Production and Properties of Biosurfactants from a Newly Isolated *Pseudomonas fluorescens* HW-6 Growing on Hexadecane

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The newly isolated from industrial wastewater *Pseudomonas fluorescens* strain HW-6 produced glycolipid biosurfactants at high concentrations ( $1.4\text{--}2.0\text{ g l}^{-1}$ ) when grown on hexadecane as a sole carbon source. Biosurfactants decreased the surface tension of the air/water interface by  $35\text{ mN m}^{-1}$  and possessed a low critical micelle concentration value of  $20\text{ mg l}^{-1}$ , which indicated high surface activity. They efficiently emulsified aromatic hydrocarbons, kerosene, *n*-paraffins and mineral oils. Biosurfactant production contributed to a significant increase in cell hydrophobicity correlated with an increased growth of the strain on hexadecane. The results suggested that the newly isolated strain of *Ps. fluorescens* and produced glycolipid biosurfactants with effective surface and emulsifying properties are very promising and could find application for bioremediation of hydrocarbon-polluted sites.

**Key words:** Biosurfactants, Glycolipids, Hydrophobicity, *Pseudomonas fluorescens*