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## Exploitation of *Enterobacter spp.* in microbial degradation of acrylamide: an environmental bioremedial approach

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Avidespread use of acrylamide, probably a neurotoxicant and carcinogen, in various industrial processes has led to environmental contamination. Fortunately, some microorganisms are able to derive energy from acrylamide. In the present work, we reported the isolation and characterization of a novel acrylamide-degrading bacterium from domestic wastewater in Chonburi, Thailand. The strain grew well in the presence of acrylamide as 0.5% (W/V), at pH 6.0 to 9.0 and 25°C. Identification based on biochemical characteristics and 16S rRNA gene sequence identified the strain as *Enterobacter spp.* Degradation of acrylamide to acrylic acid started in the late logarithmic growth phase as a biomass-dependent pattern. Specificity of cell-free supernatant towards amides completely degraded butyramide and urea and 86% of lactamide. Moderate degradation took place in other amides with that by formamide > benzamide >acetamide > cyanoacetamide > propionamide. No degradation was detected in the reactions of N,N-methylene bisacrylamide, sodium azide, thioacetamide, and iodoacetamide. These results highlighted the potential of this bacterium in the cleanup of acrylamide/amide in the environment.

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