2.1.059

Labrys potucalensis, a bacterial strain with the capacity to degrade fluorobenzene

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During previous studies on the microbial degradation of fluorobenzene (FB), a pure bacterial culture with the unique capacity to utilize this compound as a sole carbon and energy source was isolated from a sediment sample collected from an industrially polluted site in northern Portugal. The isolated strain, designated F11, degrades FB via 4-fluorocatechol, with subsequent *ortho* cleavage, and also partially via catechol. It has the ability to utilize other aromatic compounds including other fluorinated compounds such as 2-fluorobenzoate, 4- fluorobenzoate and 4-fluorophenol.

Identification studies showed that strain F11 belongs to subgroup 2 of the class Alphaproteobacteria and falls within the order *Rhizobiales*. By using a polyphasic approach, which included analysis of morphological and physiological characteristics, cellular fatty acid profiling, phylogenetic analysis of the 16S rRNA gene and DNA—DNA hybridization experiments, strain F11 was identified as a novel species of the genus *Labrys*.

doi:10.1016/j.nbt.2009.06.306