

Actinophytocola oryzae* gen. nov., sp. nov., isolated from the roots of Thai glutinous rice plants, a new member of the family *Pseudonocardiaceae

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Abstract

A novel endophytic actinomycete, strain GMKU 367^T, was isolated from roots of Thai glutinous rice plants (*Oryza sativa* L. 'RD6') collected from Pathum Thani Rice Research Center, Pathum Thani province, Thailand. Strain GMKU 367^T formed cylindrical spores on aerial mycelium, but sporangium-like structures and fragmentation of substrate mycelium were not observed. The cell-wall amino acids contained *meso*-diaminopimelic acid, alanine, glutamic acid and acetylated muramic acid. The whole-cell sugars were arabinose, galactose, mannose, rhamnose and ribose. Major fatty acids were iso-C_{15:0}, iso-C_{16:0} and C_{16:0}. The diagnostic menaquinone was MK-9(H₄). The polar phospholipids were phosphatidylethanolamine and hydroxyphosphatidylethanolamine. The G+C content of the genomic DNA was 71.1 mol%. Phylogenetic analyses based on 16S rRNA gene sequence data indicated that strain GMKU 367^T differed from members of the family *Pseudonocardiaceae*. On the basis of the evidence presented in this polyphasic study, it is proposed that strain GMKU 367^T represents a novel species in a new genus in the family *Pseudonocardiaceae*, with the name *Actinophytocola oryzae* gen. nov., sp. nov.; the type strain of *Actinophytocola oryzae* is GMKU 367^T (=BCC 31372^T =NBRC 105245^T).

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The GenBank/EMBL/DDBJ accession number for the 16S rRNA gene sequence of *Actinophytocola oryzae* GMKU 367^T is EU420070.

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