Steptomyces smaragdinus sp. nov. isolated from the gut of fungus growing-termite *Macrotermes natalensis*.

Schwitalla JW, Benndorf R, Martin K, Vollmers J, Kaster AK, de Beer ZW, Poulsen M, Beemelmanns C (2020) *Steptomyces smaragdinus* sp. nov. isolated from the gut of fungus growing-termite *Macrotermes natalensis*. *Int J Syst Evol Microbiol* 70(11), 5806-5811.

Details



Abstract

The taxonomic position of a novel aerobic, Gram-positive actinobacteria, designated strain RB5^T, was determined using a polyphasic approach. The strain, isolated from the gut of the fungus-farming termite Macrotermes natalensis, showed morphological, physiological and chemotaxonomic properties typical of the genus *Streptomyces*. Based on 16S rRNA gene sequence analysis, the closest phylogenetic neighbour of RB5^T was Streptomyces polyrhachis DSM 42102^T (98.87 %). DNA–DNA hybridization experiments between strain RB5^T and S. polyrhachis DSM 42102^T resulted in a value of 27.4 % (26.8 %). The cell wall of strain RB5^T contained ll-diaminopimelic acid as the diagnostic amino acid. Mycolic acids and diagnostic sugars in whole-cell hydrolysates were not detected. The strain produced the following major phospholipids: diphosphatidylglycerol, phosphatidylethanolamine, phosphatidylinositol,

phosphatidylinositol-mannoside and phosphatidylserine. The menaquinone profile showed hexa- and octahydrogenated menaquinones containing nine isoprene units [MK-9(H6) and MK-9(H8)]. The strain exhibited a fatty acid profile containing the following major fatty acids: 12-methyltridecanoic acid (iso-C14 : 0) 12-methyltetradecanoic acid (anteiso-C15 : 0), 13-methyltetradecanoic acid (iso-C15 : 0) and 14-methylpentadecanoic acid (iso-C16 : 0). Here, we propose a novel species of the genus *Streptomyces* – *Streptomyces smaragdinus* with the type strain RB5^{T} (=VKM Ac-2839^{T}=NRRL B65539^{T}).

Beteiligte Forschungseinheiten

Chemische Biologie der Mikroben-Wirt Interaktionen Christine Beemelmanns Mehr erfahren

Biotechnikum Miriam Agler-Rosenbaum Mehr erfahren

Leibniz-HKI-Autor*innen



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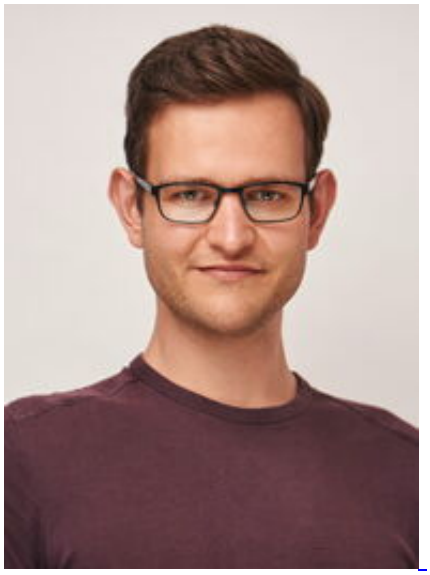
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Themenfelder

Sekundärmetabolismus von Insekten-assoziierten Mikroben

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