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## MOLECULAR CHARACTERIZATION OF MICROVIRGA STRAIN ISOLATED FROM SAKARYA RIVER SEDIMENT

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### Abstract:

Microvirga genus that belonged to the family Methylobacteriaceae was first identified by Kalso and Patel (2003) with the type species *Microvirga subterranea* isolated from geothermal waters. The cells of *Microvirga* species are Gram-stain negative, catalase-positive, strictly aerobic, rod-shaped cells and reduce nitrate to nitrite. Predominant isoprenoid quinone of *Microvirga* genus members is Q-10 and G+C contents DNA of their are approximately 61.5–64.3 mol%. *Microvirga* could be isolated from different habitat such as soil, rhizosphere and geothermal waters (Dahal and Kim., 2017; Radl et al., 2014; Zhang et al., 2009).

During a course of study on the microbial diversity of the Sakarya River sediment of Sakarya river in Çifteler, Eskişehir, Turkey, sediments collected from different locations such as source water outlet point, plant rhizosphere and open field sediment of Sakarya river. Sediment samples from 4 different points utilized in selective isolation procedures, sucrose centrifugation gradient and dilution plate technique were among them. SM3, starch-casein agar, ISP1, ISP2, Bennett agar and tripton yeast extract agar were used as selective isolation medium. Plates were incubated at 28°C for 6-8 weeks. Taxonomic position of isolates obtained from sediment was determined by 16S rRNA sequence analysis in the present study. Phylogenetic analysis of 16S rRNA gene sequences showed that one of the isolates had been closely related to *Microvirga* genus. *Micromonospora* sp. coded as S1S32 had 98.51% (20 nt difference) relationship with *M. soli*. 16S rRNA sequence similarities between S1S32 isolate and type strain of recognized species in the databases were 98.04% (27 nt difference) to *Microvirga aerilata*.

Based on phylogenetic analyzes, S1S32 *Microvirga* sp. was identified as candidate of possible new species. In order to identify this isolate, analyzes involving numerical, molecular and chemotaxonomic characters will be carried out in the near future.

**Keywords:** River Sediment, Selective Isolation, *Microvirga*, 16S Rrna

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