Desulfocurvus vexinensis gen. nov., sp. nov., a sulfate-reducing bacterium isolated from a deep subsurface aquifer

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Résumé :
A novel anaerobic, chemo-organotrophic bacterium, designated VNs36T, was isolated from that collected water from a deep saline aquifer used for underground gas storage at a 830 m in the Paris Basin, France. Cells were curved motile rods or vibrios (3.0-5.0×0.6 μm). Strain VNs36T grew at temperatures between 20 and 50 °C (optimum 37 °C) and at pH between 5.0 and 9.0 (optimum 6.9). It did not require salt for growth, but tolerated up to 20 NaClL (optimum 2 g L⁻¹). In the presence of sulfate, strain VNs36T used lactate, formate, pyruvate as carbon and energy sources. The main fermentation products from lactate were acetate, H₂ and CO₂. Sulfate, thiosulfate and sulfite were used as electron acceptors. but sulfur. The genotypic G+C content of strain VNs36T was 67.2 mol%. Phylogenetic analysis of the 16S rRNA gene sequence indicated that strain VNs36T was affiliated with the family Oesulfovibrionaceae within the class Deltaproteobacteria. On the basis of 16S rRNA gene sequence comparisons, G+C content and the absence of desulfoviridin in cell extracts, proposed that strain VNs36T be assigned to a new genus, Desulfocurvus gen. nov., as a representative of a new species, Oesulfocurvus vexinensis sp. nov. The type species of the genus is Oesulfocurvus vexinensis with the type strain VNs36T.

Mots Clés :
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