

Thermophilic anaerobic microorganisms isolated from a thermal vein in Toyoha mine

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Thermophilic anaerobic organisms were isolated from a thermal vein in Toyoha mine (Hokkaido Pref., Japan). These organisms were able to grow under anaerobic conditions at high temperature (>55 degree C) by anaerobic respiration or fermentation. The phylogenetic analysis based on 16S rDNA sequence revealed that these organisms closely related to the genera *Thermodesulfovibrio* or *Acetobacterium*. The genus *Thermodesulfovibrio* is a thermophilic sulfate-reducer and produces hydrogen sulfate. The genus *Acetobacterium* is an acetogen that can convert hydrogen and carbon dioxide into acetate. The phylogenetic analysis and physiological studies suggests that the isolated organisms participate in production of sulfides and organic carbon in the vein.

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