

Species *Brachybacterium netajii*

Etymology

[ne.ta'ji.i] **N.L. gen. n.** *netajii*, of Netaji, the Hindi/Bengali honorific title (meaning "respected leader") by which Subhas Chandra Bose, Indian nationalist (1897–1945), is widely known

Nomenclatural type

[NCBI Assembly: GCA_054114245.1](#) ^{Ts}

Reference Strain

[Strain sc|0042022](#): MTCC 13125 = DNPG3

Description

Cells are Gram-positive and non-motile. Colonies formed on PNP agar are yellowish-white and circular. Growth occurs over a temperature range of 20–40°C, with optimal growth observed at 30 °C. The strain tolerates up to 9% NaCl and grows well within a pH range of 5.8–8.0. The strain is oxidase-negative but catalase-positive and exhibits starch-hydrolyzing activity. Positive reactions was observed for β -glucosidase activity. The organism is capable of utilizing sucrose, D-xylose, D-glucose, D-mannose, L-arabinose, D-melibiose, D-maltose, D-trehalose, D-cellobiose, D-sorbitol, and D-mannitol as carbon sources. Positive reactions are recorded for adenosine assimilation, L-lactate utilization, and citrulline metabolism. In contrast, the strain tested negative for Ala-Phe-Pro arylamidase, glycine arylamidase, pyrrolidonyl arylamidase, proline arylamidase, β -alanine arylamidase, and Gly-Gly arylamidase. H₂S production was not detected. Furthermore, the strain lacked enzymatic activities associated with β -N-acetylglucosaminidase, lipase, phosphatase, β -glucuronidase, α -galactosidase, α -glucosidase, β -galactosidase, and β -xylosidase. The strain failed to utilize D-tagatose, 5-keto-D-gluconate, succinate, palatinose, N-acetyl-D-glucosamine, L-malate, L-arabinitol, and L-lactate as substrates.

The cellular fatty acid profile is dominated by C15:0 Anteiso (24.61%) as the most abundant, followed by C_{11:0} (21.06%), iso-C_{16:0} (11.89%), C_{16:0} (11.58%), and anteiso-C_{17:0} (11.24%). The predominant respiratory quinone is menaquinone MK-7, consistent with members of the genus *Brachybacterium*. The reference strain, designated DNPG3 (= MTCC 13125), was isolated from the River Ganges, W.B, India.

Classification

Bacteria » *Actinomycetota* » *Actinomycetes* » *Micrococcales* » *Dermabacteraceae* » *Brachybacterium* » *Brachybacterium netajii*

References

Effective publication: Alam et al., 2026 [1]

Registry URL

<https://seqco.de/i:56045>

References

1. Alam et al. (2026). Polyphasic taxonomic characterization of *Brachybacterium netajii* sp. nov., a metabolically versatile bacterium isolated from the river Ganges, India. *Scientific Reports*. DOI:10.1038/s41598-026-56775-0