

Agrobacterium bohemicum

Submitted by Van Lill, Melandre

Species *Agrobacterium bohemicum*

Etymology

[bo.he'mi.cum] **N.L. neut. adj.** *bohemicum*, from Bohemia, named in honor of the Garden of Bohemia, a location in the Czech Republic, where the strains were isolated

Nomenclatural type

[NCBI Assembly: GCF_002896715.1](#) ^{Ts}

Reference Strain

[Strain sc|0039564](#): R90 = [CCM 8736](#) = [DSM 104667](#)

Description

Cells of *A. bohemicum* are Gram-negative, rod shaped (0.5–0.7 × 1.5–2.5 µm), forming single cells or ragged aggregates, strictly aerobic and motile. Good growth was monitored on LB, King's B medium and YMA with or without tellurite (K₂TeO₃; 70 µg ml^{−1}). Colonies on LB medium have a diameter of 1 mm after 48 h of growth at 28 °C and are white-yellowish, circular, convex and glistening. Strains produce colonies with blue central coloration on aniline blue medium. The growth on Litmus milk medium is accompanied by alkaline reaction. Cells grow between 10 and 35 °C (28–30 °C temperature optimum) in broad pH range (6–11.0) with optimum at pH 7.5. Cells do not grow in the presence of 2% NaCl or higher and are susceptible to all tested antibiotics: ampicillin, kanamycin, gentamicin sulfate, streptomycin, spectinomycin, tetracycline and chloramphenicol. Resistance was observed for acriflavine with MIC 20 µg ml^{−1}. Codeine metabolism seems to be an important characteristic of this *Agrobacterium* species. This ability has not been published for other *Agrobacterium* species. The strains do not produce 3-ketolactose from lactose. Other negative tests are: ferric ammonium citrate coloration, citrate utilization and production acid from inositol, meso-erythritol and d-(+)-melezitose. Cells are not able to use nitrate or nitrite as a sole nitrogen source for growth. Good nitrogen sources are ammonium sulfate, ammonium nitrate and l-amino acids asparagine, glutamine, serine, proline, hydroxyproline, threonine and methionine. The strains utilize: adonitol, alanine, d-arabinose, l-arabinose, d-arabitol, l-asparagine, l-aspartate, d-cellobiose, cysteine, d-fructose, galactose, gentibiose, glucosamine, α-d-glucose, l-glutamate, l-glutamine, glycerol, hydroxyproline, inositol, lactose, lyxose, mannose, methyl-α and β-d-glukopyranoside, proline, raffinose, rhamnose, ribose, saccharose, serine, sorbitol, threonine, trehalose, d-mannitol and d-xylose. Weak or limited growth was recorded on valine, glycine, methionine, xylitol, 2-deoxy-d-glucose and methyl α-d-mannopyranoside. Strains are not able to utilize: arginine, tyrosine, histidine, acetamide, malonate, gelatin, starch, Tween 40, Tween 80, casein, lecithin, ornithine, Na-d-salicylate, d-sorbose, N-acetyl neuraminic acid, 3-methyl-glucose, p-OH-phenylacetic acid, α-OH-butyric acid and α-keto-butyric acid. The MLSA and whole-genome analysis confirmed that strains R89-1 and R90 were genetically different from other *Agrobacterium* species and formed a cluster with *A. rubi* and *A. skierniewicense*. The ANI value between strain R90 and *Agrobacterium rubi* W2/73, the most closely related type strain in the genus *Agrobacterium*, is only 82%. The type strain R90T was isolated from *P. somniferum* L. composted material in 2016.

Classification

Bacteria » *Pseudomonadota* » *Alphaproteobacteria* » *Hyphomicrobiales* » *Rhizobiaceae* » *Agrobacterium* » *Agrobacterium bohemicum*

References

Effective publication: Zahradník et al., 2018 [1]

Registry URL

<https://seqco.de/i:49626>

References

1. Zahradník et al. (2018). *Agrobacterium bohemicum* sp. nov. isolated from poppy seed wastes in central Bohemia. *Systematic and Applied Microbiology*. DOI:[10.1016/j.syapm.2018.01.003](https://doi.org/10.1016/j.syapm.2018.01.003)

Register List Certificate of Validation

On behalf of the *Committee on the Systematics of Prokaryotes Described from Sequence Data* (SeqCode Committee), we hereby certify that the Register List **seqco.de/r:t5zyhi5** submitted by **Van Lill, Melandre** and including 1 new name has been successfully validated.

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