

Helicobacter sp., Strain 35A (deposited as *Helicobacter pylori*, Strain 35A)

Catalog No. HM-274

Product Description:

Helicobacter sp., strain 35A (also referred to as 35A) was isolated from a human stomach. HM-274 was deposited to BEI Resources as *Helicobacter pylori* (*H. pylori*); however, digital DNA-DNA hybridization (dDDH) analysis performed at BEI Resources resulted in reclassification to *Helicobacter* sp. The designation on the vial label refers to the old nomenclature. HM-274 was produced by inoculation of BEI Resources seed lot 59945179 into Tryptic Soy broth, which was used to inoculate a Tryptic Soy agar with 5% defibrinated sheep blood plate, and both were grown at 37°C in a microaerophilic atmosphere for 3 days. Colonies from the plate were scraped into the Tryptic Soy broth growth and the growth mixture was added to a Tryptic Soy agar with 5% defibrinated sheep blood kolles, which were grown for 3 days at 37°C in a microaerophilic atmosphere to produce this lot. Quality control testing was completed under propagation conditions unless otherwise noted.

Note: Quality control of HMP material is only performed to demonstrate that the material distributed by BEI Resources is identical to the deposited material. It should not be considered a complete characterization of the deposited organism.

Lot: 70063956

Manufacturing Date: 09OCT2023

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology Motility (wet mount)	Gram-negative rods Report results Report results	Gram-negative rods Circular, convex, entire and translucent Motile
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1400 base pairs) Digital DNA-DNA hybridization (dDDH) ¹	≥ 99% sequence identity to <i>H. pylori</i> , strain 35A (GenBank: CP002096.1) > 70% dDDH value for identity to <i>Helicobacter pylori</i> type species	99.9% sequence identity to <i>H. pylori</i> , strain 35A (GenBank: CP002096.1) < 70% dDDH value for identity to any <i>Helicobacter pylori</i> type species ^{2,3}
Purity (post-freeze) Microaerobic 7 days at 37°C on Tryptic Soy agar with 5% defibrinated sheep blood Aerobic with 5% CO ₂ 7 days at 37°C on Tryptic Soy agar with 5% defibrinated sheep blood Aerobic 7 days at 37°C on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology Growth consistent with expected colony morphology Growth consistent with expected colony morphology	Growth consistent with expected colony morphology Growth consistent with expected colony morphology ⁴ No growth
Viability (post-freeze)	Growth	Growth

¹Relatedness between bacterial strains has traditionally been determined using DDH. For additional information, refer to Auch, A. F., et al. "Digital DNA-DNA Hybridization for Microbial Species Delineation by Means of Genome-to-Genome Sequence Comparison." *Stand. Genomic Sci.* 2 (2010):117-134. PubMed: 21304684. dDDH analysis was performed using the Type (Strain) Genome Server (TYGS).

²The whole genome of *H. pylori*, strain 83 (Total Contig Length ~ 1.6 megabase pairs) was sequenced using the Illumina® NextSeq® system and was analyzed and assembled with Minimap2 version 2.28.r1209, Kraken version 2.1.3 and Unicycler v0.5.1.

³TYGS was unable to identify a matching type strain for this item. The closest matching type strain is *H. pylori* CCUG 17874 with a dDDH value of 55.6%. This result suggests that HM-274 may represent a new species closely related to *H. pylori*, possibly in the genus *Helicobacter*.

⁴*H. pylori* is known to show weak growth under aerobic conditions (Bury-Moné, S., et al. "Is *Helicobacter pylori* a True Microaerophile?" *Helicobacter* 11 (2006): 296-303. PubMed: 16882333.).

Certificate of Analysis for HM-274

/Sonia Bjorum Brower/

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06 OCT 2026

Technical Manager or designee, ATCC Federal Solutions

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