

**Helicobacter pylori, Strain Hp A-4**

**Catalog No. NR-43653**

**Product Description:**

*Helicobacter pylori* (*H. pylori*), strain Hp A-4 was isolated from gastric biopsy homogenate of a patient with a duodenal ulcer in Ohio, USA. NR-43653 lot 70053511 was produced by the inoculation of the BEI Resources seed lot 63734560 into Brucella broth and grown for 3 days at 37°C in a microaerophilic atmosphere (~ 6-16% O<sub>2</sub> and 2-10% CO<sub>2</sub>). Broth inoculum was added to Columbia agar with 7% defibrinated horse blood, 5 µg/mL trimethoprim, 5 µg/mL vancomycin, 10 µg/mL cefsulodin and 2.5 µg/mL amphotericin B kolles, which were grown for 4 days at 37°C in a microaerophilic atmosphere to produce this lot.

**Lot: 70053511**

**Manufacturing Date: 15JUL2022**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology 3 days at 37°C in a microaerophilic atmosphere on Columbia agar with 7% defibrinated horse blood, 5 µg/mL trimethoprim, 5 µg/mL vancomycin, 10 µg/mL cefsulodin and 2.5 µg/mL amphotericin B Motility (wet mount) VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results <i>H. pylori</i>	Gram-negative rods Circular, convex, entire and smooth  Motile <i>H. pylori</i> (99.9%)
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~ 1400 base pairs)	≥ 99% sequence identity to <i>H. pylori</i> , type strain (GenBank: NR_114587.1)	99.8% sequence identity to <i>H. pylori</i> , type strain (GenBank: NR_114587.1)
Digital DNA-DNA hybridization (dDDH) <sup>1</sup>	> 70% dDDH value for identity to <i>Helicobacter pylori</i> type species	< 70% dDDH value for identity to any <i>Helicobacter pylori</i> type species <sup>1,2</sup>
<b>Purity (post-freeze)</b> Microaerophilic 7 days at 37°C on Tryptic Soy agar with 5% defibrinated sheep blood Aerobic with 5% CO <sub>2</sub> 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 <sup>3</sup>
<b>Viability (post-freeze)</b> 3 days at 37°C in a microaerophilic atmosphere on Columbia agar with 7% defibrinated horse blood, 5 µg/mL trimethoprim, 5 µg/mL vancomycin, 10 µg/mL cefsulodin and 2.5 µg/mL amphotericin B	Growth	Growth

<sup>1</sup>Relatedness 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.

<sup>2</sup>The closest matching type strain is *H. pylori* CCUG 17874 with a dDDH value of 54.6%. This result suggests that NR-43653 may represent a new species closely related to *H. pylori*, possibly in the genus *Helicobacter*.

<sup>3</sup>*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)

/Sonia Bjorum Brower/

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Technical Manager or designee, ATCC Federal Solutions

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