

**Helicobacter sp., Strain Hp A-5 (deposited as *Helicobacter pylori*, Strain Hp A-5)**

**Catalog No. NR-43654**

**Product Description:**

*Helicobacter sp.*, strain Hp A-5 was isolated from gastric biopsy homogenate of a patient with a gastric ulcer in Ohio, USA. NR-43654 was deposited to BEI Resources as *Helicobacter 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. NR-43654 was produced by inoculation of the deposited material into Brucella broth. 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. The inoculated agar and broth were each grown for 5 days at 37°C in a microaerophilic atmosphere (~ 6-16% O<sub>2</sub> and 2-10% CO<sub>2</sub>). Colonies from the Columbia agar culture were suspended into the Brucella broth growth, and this biphasic culture 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: 64136547**

**Manufacturing Date: 22APR2016**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology <sup>1</sup>  Motility (wet mount) Biochemical characterization Catalase Oxidase Urease Nitrate reduction H <sub>2</sub> S (lead acetate paper) Hippurate hydrolysis Growth with 5% CO <sub>2</sub> Growth at 25°C Growth at 37°C Growth at 42°C Brucella albimi + 0.16% agar (growth control) Brucella albimi + 0.16% agar with 1% glycine Brucella albimi + 0.16% agar with 3.5% NaCl	Gram-negative rods Report results  Report results  Positive Positive Positive Negative Report results Negative Growth No growth Growth Report results Growth No growth No growth	Gram-negative rods Circular, low convex, entire, translucent and gray (Figure 1) Motile  Positive Positive Positive Negative Report results Negative Growth No growth Growth Report results Growth No growth <sup>2</sup> No growth <sup>3</sup>
<b>Antibiotic Susceptibility Profile</b> BD BBL™ Sensi-Disc™ susceptibility test discs Metronidazole (80 µg) <sup>4</sup> Nalidixic acid (30 µg) <sup>5</sup>	Report results Report results	49 mm 8 mm
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA (rRNA) gene (~ 1410 base pairs)	≥ 99% sequence identity to <i>H. pylori</i> , strain Hp A-5 (GenBank: AKOB01000005.1)	100% sequence identity to <i>H. pylori</i> , strain Hp A-5 (GenBank: AKOB01000005.1)
<b>Confirmation of <i>H. pylori</i> by PCR Amplification of Extracted DNA</b> Positive control (16S rRNA gene) Negative control ( <i>H. acinonychis</i> ) <i>ureA</i> <i>ssaA</i>	Amplicon present No amplicon present Amplicon present Amplicon present	Amplicon present No amplicon present Amplicon present Amplicon present

TEST	SPECIFICATIONS	RESULTS
<b>Purity (post-freeze)</b> Microaerophilic growth <sup>6</sup>  Aerobic growth <sup>7,8</sup>	Consistent with expected colony morphology Consistent with expected colony morphology	Consistent with expected colony morphology Consistent with expected colony morphology
<b>Viability (post-freeze)<sup>1</sup></b>	Growth	Growth

<sup>1</sup>3 days 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 at 37°C in a microaerophilic atmosphere

<sup>2</sup>Specification for this test was obtained from Bergey's Manual<sup>®</sup> of Systematic Bacteriology, 2<sup>nd</sup> ed., Volume 2, Part C, which indicates that growth may occur in up to 17% of strains.

<sup>3</sup>Specification for this test was obtained from Bergey's Manual<sup>®</sup> of Systematic Bacteriology, 2<sup>nd</sup> ed., Volume 2, Part C, which indicates that growth may occur in 20% to 43% of strains.

<sup>4</sup>Test performed using metronidazole 80 µg (MET-80, BBI™ 231605)

<sup>5</sup>Test performed using nalidixic acid 30 µg (NA-30, BBL™ 231311)

<sup>6</sup>Purity of this lot was assessed for 3 days on Tryptic Soy agar with 5% defibrinated sheep blood at 37°C in a microaerophilic atmosphere (~ 6-16% O<sub>2</sub> and 2-10% CO<sub>2</sub>).

<sup>7</sup>Purity of this lot was assessed for 7 days on Tryptic Soy agar with 5% defibrinated sheep blood at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub>.

<sup>8</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.).

Figure 1: Colony Morphology



/Sonia Bjorum Brower/  
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