

**Antimicrobial Resistance Panel 3: *Pseudomonas aeruginosa*, Strain Z-61 Restoration of Key Mutations (*oprM*, *ampC*, *lptE*) to Wild Type**

Catalog No. NR-55642

**Product Description:**

NR-55642 consists of 14 strains with varying combinations of wild-type and mutant genes in the *Pseudomonas aeruginosa* (*P. aeruginosa*), strain Z61 or *P. aeruginosa* ATCC® 12055™ backgrounds. Each component was produced by inoculation of the deposited material into Tryptic Soy broth and grown for 1 day at 37°C in an aerobic atmosphere. Broth inoculum was added to Tryptic Soy agar kolles, which were grown for 1 day at 37°C in an aerobic atmosphere to produce each lot. Quality control testing was completed under propagation conditions unless otherwise noted.

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**Table 1: Kit Components**

COMPONENT NUMBER	DESCRIPTION	BACKGROUND STRAIN	GENE VARIANT(S)	LOT NUMBER	DATE OF MANUFACTURE
NR-51954	<i>P. aeruginosa</i> , strain NB52041-CDY0170	<i>P. aeruginosa</i> ATCC® 12055™	<i>lptE<sup>D</sup></i>	70044553	19MAY2021
NR-51955	<i>P. aeruginosa</i> , strain NB52041-CDY0171	<i>P. aeruginosa</i> ATCC® 12055™	<i>lptE<sup>D</sup>ΔoprM</i>	70044555	19MAY2021
NR-51956	<i>P. aeruginosa</i> , strain NB52041-CDY0172	<i>P. aeruginosa</i> ATCC® 12055™	<i>lptE<sup>D</sup> ΔampC</i>	70044557	19MAY2021
NR-51957	<i>P. aeruginosa</i> , strain NB52041-CDY0173	<i>P. aeruginosa</i> ATCC® 12055™	<i>lptE<sup>D</sup> ΔoprM ΔampC</i>	70044559	19MAY2021
NR-51958	<i>P. aeruginosa</i> , strain NB52041-CDY0174	<i>P. aeruginosa</i> ATCC® 12055™	<i>ΔampC</i>	70044561	21MAY2021
NR-51959	<i>P. aeruginosa</i> , strain NB52041-CDY0175	<i>P. aeruginosa</i> ATCC® 12055™	<i>ΔoprM</i>	70044563	21MAY2021
NR-51960	<i>P. aeruginosa</i> , strain NB52041-CDY0176	<i>P. aeruginosa</i> ATCC® 12055™	<i>ΔoprM ΔampC</i>	70044565	04JUN2021
NR-51961	<i>P. aeruginosa</i> , strain NB52040-CDY0025	<i>P. aeruginosa</i> strain Z61	<i>oprM</i>	70044537	21MAY2021
NR-51962	<i>P. aeruginosa</i> , strain NB52040-CDY0082	<i>P. aeruginosa</i> strain Z61	<i>ampC</i>	70044539	21MAY2021
NR-51963	<i>P. aeruginosa</i> , strain NB52040-CDY0083	<i>P. aeruginosa</i> strain Z61	<i>lptE</i>	70044541	26MAY2021
NR-51964	<i>P. aeruginosa</i> , strain NB52040-CDY0084	<i>P. aeruginosa</i> strain Z61	<i>ampC, lptE</i>	70044543	21MAY2021
NR-51965	<i>P. aeruginosa</i> , strain NB52040-CDY0085	<i>P. aeruginosa</i> strain Z61	<i>oprM, lptE</i>	70044545	26MAY2021
NR-51966	<i>P. aeruginosa</i> , strain NB52040-CDY0086	<i>P. aeruginosa</i> strain Z61	<i>oprM, lptE, ampC</i>	70044547	19MAY2021
NR-51967	<i>P. aeruginosa</i> , strain NB52040-CDY0087	<i>P. aeruginosa</i> strain Z61	<i>ampC, oprM</i>	70044549	19MAY2021

**Table 2: *Pseudomonas aeruginosa*, strain NB52041-CDY0170 (NR-51954)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, low convex, entire, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamycin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	48 µg per mL Sensitive (0.094 µg per mL) Sensitive (0.094 µg per mL) Sensitive (1 to 1.5 µg per mL) 2.0 µg per mL 4 to 6 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> <i>lptE</i> mutation	≥ 70% for species identification <i>lptE</i> mutation present	<i>P. aeruginosa</i> (95.3%) <b>Pending</b>
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere with 5% CO <sub>2</sub> on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 3: *Pseudomonas aeruginosa*, strain NB52041-CDY0171 (NR-51955)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, low convex, undulate, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamycin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	8 µg per mL Sensitive (≤ 0.016 µg per mL) Sensitive (0.047 µg per mL) Sensitive (0.25 µg per mL) 1.0 µg per mL 0.5 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> <i>oprM</i> deletion	≥ 70% for species identification <i>oprM</i> deletion present	<i>P. aeruginosa</i> (95.3%) <b>Pending</b>

TEST	SPECIFICATIONS	RESULTS
<i>lptE</i> mutation	<i>lptE</i> mutation present	Pending
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere with 5% CO <sub>2</sub> on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 4: *Pseudomonas aeruginosa*, strain NB52041-CDY0172 (NR-51956)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, low convex, undulate, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamycin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	2 µg per mL Sensitive (0.125 µg per mL) Sensitive (0.094 to 0.125 µg per mL) Sensitive (1.0 to 1.5 µg per mL) 1.5 µg per mL 4.0 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> <i>ampC</i> deletion <i>lptE</i> mutation	≥ 70% for species identification <i>ampC</i> deletion present <i>lptE</i> mutation present	<i>P. aeruginosa</i> (95%) Pending Pending
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere with 5% CO <sub>2</sub> on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 5: *Pseudomonas aeruginosa*, strain NB52041-CDY0173 (NR-51957)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, convex, entire, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)

TEST	SPECIFICATIONS	RESULTS
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamycin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	0.023 to 0.032 µg per mL Sensitive (≤ 0.016 µg per mL) Sensitive (0.003 to 0.008 µg per mL) Sensitive (0.16 to 0.25 µg per mL) 1.0 µg per mL 0.25 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> <i>ampC</i> deletion <i>oprM</i> deletion <i>lptE</i> mutation	≥ 70% for species identification <i>ampC</i> deletion present <i>oprM</i> deletion present <i>lptE</i> mutation present	<i>P. aeruginosa</i> (95.3%) Pending Pending Pending
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with or without 5% CO <sub>2</sub>	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 6: *Pseudomonas aeruginosa*, strain NB52041-CDY0174 (NR-51958)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, convex, entire, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamycin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	48 µg per mL Sensitive (2 µg per mL) Sensitive (0.38 to 0.75 µg per mL) Sensitive (3 to 4 µg per mL) > 32 µg per mL 32 to 48 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> <i>ampC</i> deletion	≥ 70% for species identification <i>ampC</i> deletion present	<i>P. aeruginosa</i> (95%) Pending
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with or without 5% CO <sub>2</sub>	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 7: *Pseudomonas aeruginosa*, strain NB52041-CDY0175 (NR-51959)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, low convex, entire, smooth and cream  Motile <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamycin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	> 256 µg per mL Sensitive (0.25 to 0.38 µg per mL) Sensitive (1.0 µg per mL) Sensitive (0.5 µg per mL) > 32 µg per mL 2 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> <i>oprM</i> deletion	≥ 70% for species identification <i>oprM</i> deletion present	<i>P. aeruginosa</i> (95.4%) Pending
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere with 5% CO <sub>2</sub> on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 8: *Pseudomonas aeruginosa*, strain NB52041-CDY0176 (NR-51960)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, convex, entire, rough and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamycin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	Inconclusive <sup>2</sup> Sensitive (0.019 µg per mL) Sensitive (0.075 to 1.0 µg per mL) Sensitive (0.25 µg per mL) > 32 µg per mL 1 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>3</sup> <i>ampC</i> deletion <i>oprM</i> deletion	≥ 70% for species identification <i>ampC</i> deletion present <i>oprM</i> deletion present	<i>P. aeruginosa</i> (95.4%) Pending Pending

TEST	SPECIFICATIONS	RESULTS
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</sup>Antibiotic susceptibility testing performed in duplicate determined that for *P. aeruginosa*, strain NB52041-CDY0176, the ampicillin MICs are 1.5 µg per mL and > 256 µg per mL.

<sup>3</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.

**Table 9: *Pseudomonas aeruginosa*, strain NB52040-CDY0025 (NR-51961)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, convex, entire, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamicin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	1.5 µg per mL Sensitive (0.047 µg per mL) Sensitive (0.064 µg per mL) Sensitive (1.0 µg per mL) 1.0 to 1.5 µg per mL Inconclusive <sup>2</sup>
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>3</sup> Wild-type <i>oprM</i>	≥ 70% for species identification Wild-type <i>oprM</i> present	<i>P. aeruginosa</i> (95.3%) Pending
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with and without 5% CO <sub>2</sub>	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</sup>Antibiotic susceptibility testing performed in duplicate determined that for *P. aeruginosa*, strain NB52040-CDY0025, the ampicillin MICs are 6 µg per mL and 16 µg per mL.

<sup>3</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.

**Table 10: *Pseudomonas aeruginosa*, strain NB52040-CDY0082 (NR-51962)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, convex, entire, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)



TEST	SPECIFICATIONS	RESULTS
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest <sup>®</sup> antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamicin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	4 µg per mL Sensitive (0.016 µg per mL) Sensitive (0.125 µg per mL) Sensitive (0.38 µg per mL) 1.5 µg per mL 1 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> Wild-type <i>ampC</i>	≥ 70% for species identification Wild-type <i>ampC</i> present	<i>P. aeruginosa</i> (95.2%) Pending
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with and without 5% CO <sub>2</sub>	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 11: *Pseudomonas aeruginosa*, strain NB52040-CDY0083 (NR-51963)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK <sup>®</sup> MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, low convex, entire, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest <sup>®</sup> antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamicin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	0.50 µg per mL Sensitive (0.19 µg per mL) Sensitive (0.38 to 0.75 µg per mL) Sensitive (0.5 µg per mL) > 32 µg per mL 3 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> Wild-type <i>lptE</i>	≥ 70% for species identification Wild-type <i>lptE</i> present	<i>P. aeruginosa</i> (95.3%) Pending
<b>Purity</b> 7 days on Tryptic Soy agar at 37°C in an aerobic atmosphere with and without 5% CO <sub>2</sub>	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 12: *Pseudomonas aeruginosa*, strain NB52040-CDY0084 (NR-51964)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, flat, entire, smooth and cream  Motile <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamicin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	1 to 4 µg per mL Sensitive (0.38 to 0.50 µg per mL) Sensitive (0.38 µg per mL) Sensitive (0.5 µg per mL) > 32 µg per mL 4 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> Wild-type <i>ampC</i> Wild-type <i>lptE</i>	≥ 70% for species identification Wild-type <i>ampC</i> present Wild-type <i>lptE</i> present	<i>P. aeruginosa</i> (95.2%) Pending Pending
<b>Purity</b> 7 days on Tryptic Soy agar with 5% sheep blood at 37°C in an aerobic atmosphere with 5% CO <sub>2</sub>	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 13: *Pseudomonas aeruginosa*, strain NB52040-CDY0085 (NR-51965)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, convex, entire, smooth and cream  Motile <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamicin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	48 µg per mL Sensitive (3 µg per mL) Sensitive (0.75 to 1.0 µg per mL) Sensitive (2 to 3 µg per mL) > 32 µg per mL Inconclusive <sup>2</sup>
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>3</sup> Wild-type <i>lptE</i> Wild-type <i>oprM</i>	≥ 70% for species identification Wild-type <i>lptE</i> present Wild-type <i>oprM</i> present	<i>P. aeruginosa</i> (95.1%) Pending Pending



TEST	SPECIFICATIONS	RESULTS
<b>Purity</b> 37°C on Tryptic Soy agar with 5% sheep blood in an aerobic atmosphere with 5% CO <sub>2</sub>	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</sup>Antibiotic susceptibility testing performed in duplicate determined that for *P. aeruginosa*, strain NB52040-CDY0085, the tetracycline MICs are 16 to 24 µg per mL and > 256 µg per mL.

<sup>3</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.

**Table 14: *Pseudomonas aeruginosa*, strain NB52040-CDY0086 (NR-51966)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Irregular, flat, undulate, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest® antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamicin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	> 32 µg per mL Sensitive (1 µg per mL) Sensitive (0.05 µg per mL) Sensitive (4 µg per mL) > 32 µg per mL 24 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> Wild-type <i>ampC</i> Wild-type <i>lptE</i> Wild-type <i>oprM</i>	≥ 70% for species identification Wild-type <i>ampC</i> present Wild-type <i>lptE</i> present Wild-type <i>oprM</i> present	<i>P. aeruginosa</i> (95.3%) Pending Pending Pending
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

**Table 15: *Pseudomonas aeruginosa*, strain NB52040-CDY0087 (NR-51967)**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology  Motility (wet mount) Hemolysis VITEK® MS (MALDI-TOF)	Gram-negative rods Report results  Report results Report results <i>P. aeruginosa</i>	Gram-negative rods Circular, low convex, entire, smooth and cream  Motile Beta-hemolytic <i>P. aeruginosa</i> (99.9%)

TEST	SPECIFICATIONS	RESULTS
<b>Antibiotic Susceptibility Profile<sup>1</sup></b> Etest <sup>®</sup> antibiotic test strips 1 day at 35°C in an aerobic atmosphere on Mueller Hinton agar Ampicillin Aztreonam Ciprofloxacin Gentamicin Rifampin Tetracycline	Report results Report results Report results Report results Report results Report results	2 to 3 µg per mL Sensitive (0.047 µg per mL) Sensitive (0.094 µg per mL) Sensitive (2 µg per mL) 1 µg per mL 3 µg per mL
<b>Genotypic Analysis</b> Digital DNA-DNA hybridization (dDDH) <sup>2</sup> Wild-type <i>lptE</i> Wild-type <i>oprM</i>	≥ 70% for species identification Wild-type <i>lptE</i> present Wild-type <i>oprM</i> present	<i>P. aeruginosa</i> (95.2%) Pending Pending
<b>Purity</b> 7 days at 37°C in an aerobic atmosphere on Tryptic Soy agar with 5% defibrinated sheep blood	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
<b>Viability</b>	Growth	Growth

<sup>1</sup>Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M100-S28 (2018)

<sup>2</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.

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