SUPPORTING INFECTIOUS DISEASE RESEARCH

Burkholderia pseudomallei, Strain Bp82 (ApurM)

Catalog No. NR-51280

Product Description: Burkholderia pseudomallei (B. pseudomallei), strain Bp82 is an attenuated strain of *B. pseudomallei*, strain 1026b. Strain Bp82 was attenuated via a partial deletion of the *purM* gene, resulting in adenine and thiamine auxotrophy.

Lot¹: 70016185

Manufacturing Date: 12SEP2018

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis		
Cellular morphology	Gram negative rods	Gram negative rods
Colony morphology ²	Report results	Circular, low convex, entire, smooth and cream (Figure 1)
Motility (wet mount)	Report results	Motile
Growth on Ashdown's selective agar (ASA) ^{3,4}	Positive	Positive
Growth on <i>B. pseudomallei</i> selective agar (BPSA) ^{3,5}	Positive	Positive
Analytical profile index (API 20 NE)	B. pseudomallei (> 80%)	B. pseudomallei (82.1%) ⁶
Arabinose metabolism	Negative	Negative
Oxidase (cytochrome oxidase)	Positive	Positive
VITEK [®] 2 Compact (GN Card)	B. pseudomallei (≥ 89%)	B. pseudomallei (92%)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	 ≥ 99% sequence identity to <i>B. pseudomallei</i>, strain 1026b (GenBank: CP004380.1 and CP004379.1) <i>B. pseudomallei</i> C at nucleotide 75 of 16S ribosomal RNA gene⁷ 	 100% sequence identity to <i>B. pseudomallei</i>, strain 1026b (GenBank: CP004380.1 and CP004379.1) <i>B. pseudomallei</i> C at nucleotide 75 of 16S ribosomal RNA gene⁷
Confirmation of Deletion Next-Generation Sequencing (illumina [®] MiSeq)	∆purM	∆purM ⁸
Purity (post-freeze) ⁹	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze) ²	Growth	Growth

¹NR-51280 was produced by inoculation of NRS-49094 lot 63419677 into Tryptic Soy broth and incubated for 1 day at 37°C in an aerobic atmosphere with 5% CO₂. Broth inoculum was added to Tryptic Soy agar kolles and grown 1 day at 37°C in an aerobic atmosphere with 5% CO₂ to produce this lot.

²1 day at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar

³2 days at 37°C in an aerobic atmosphere

⁴ASA is a gentamicin-containing medium that results in selective growth of *B. pseudomallei* (Ashdown, L. R. "An Improved Screening Technique for Isolation of *Pseudomonas pseudomallei* from Clinical Specimens." <u>Pathology</u>. 11 (1979): 293-297. PubMed: 460953).

⁵BPSA is a gentamicin-containing medium that results in selective growth of *B. pseudomallei* and has improved recovery of more easily inhibited strains of *B. pseudomallei* (Howard, K. and T. J. Inglis. "Novel Selective Medium for Isolation of *Burkholderia pseudomallei*." <u>J. Clin. Microbiol.</u> 41 (2003): 3312-3316. PubMed: 12843080).

⁶Doubtful profile, tests against were assimilation of capric acid and phenylacetic acid which were expected to be positive.

⁷Gee, J. E., et al. "Use of 16S rRNA Gene Sequencing for Rapid Identification and Differentiation of *Burkholderia pseudomallei* and *B. mallei*". <u>J. Clin.</u> <u>Microbiol.</u> 10 (2003): 4647-4654. PubMed: 14532197.

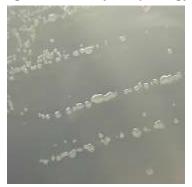
⁸Alignment of the NR-51280 DNA sequence to the strain 1026b sequence illustrates the 109 base pair deletion which results in a truncated PurM protein as described by the depositor (Propst, K. L., et al. "A *Burkholderia pseudomallei ∆purM* Mutant is Avirulent in Immunocompetent and Immunodeficient Animals: Candidate Strain for Exclusion from Select-Agent Lists." Infect. Immun. 78 (2010): 3136-3143. PubMed: 20404077).
 ⁹Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar.

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Certificate of Analysis for NR-51280

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Figure 1: Colony Morphology



/Heather Couch/ Heather Couch

Program Manager or designee, ATCC Federal Solutions

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