

Burkholderia pseudomallei, Strain Bp82 ($\Delta purM$)

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 Colony morphology ² Motility (wet mount) Growth on Ashdown's selective agar (ASA) ^{3,4} Growth on <i>B. pseudomallei</i> selective agar (BPSA) ^{3,5} Analytical profile index (API 20 NE) Arabinose metabolism Oxidase (cytochrome oxidase) VITEK [®] 2 Compact (GN Card)	Gram negative rods Report results Report results Positive Positive <i>B. pseudomallei</i> (> 80%) Negative Positive <i>B. pseudomallei</i> (\geq 89%)	Gram negative rods Circular, low convex, entire, smooth and cream (Figure 1) Motile Positive Positive <i>B. pseudomallei</i> (82.1%) ⁶ Negative Positive <i>B. pseudomallei</i> (92%)
Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1470 base pairs)	\geq 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 gene ⁷	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 gene ⁷
Confirmation of Deletion Next-Generation Sequencing (illumina [®] MiSeq)	$\Delta purM$	$\Delta purM^{\#}$
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." *Pathology*. 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*." *J. Clin. Microbiol.* 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*". *J. Clin. Microbiol.* 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* $\Delta purM$ 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.

Figure 1: Colony Morphology



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