

Mycobacterium abscessus, Strain Clinical Isolate 35

Catalog No. NR-59672

Product Description:

Mycobacterium abscessus (*M. abscessus*), strain Clinical Isolate 35 was isolated in February 2018 from the induced sputum from a human in Boston, Massachusetts, USA, following the treatment involving different therapeutics that may have resulted in resistance mutations. Strain Clinical Isolate 35 was deposited to BEI Resources as sensitive to amikacin, clarithromycin, linezolid and tobramycin, intermediately resistant to imipenem and resistant to cefoxitin, ciprofloxacin, meropenem, moxifloxacin and trimethoprim/sulfamethoxazole. NR-59672 was produced by inoculation of the deposited material into Middlebrook 7H9 broth with ADC enrichment and grown for 3 days at 37°C in an aerobic atmosphere with 5% CO₂. Broth inoculum was added to Middlebrook 7H10 (M7H10) agar with OADC enrichment kolles, which were grown for 3 days at 37°C in an aerobic atmosphere with 5% CO₂ to produce this lot. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70071578

Manufacturing Date: 10OCT2024

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology Motility (wet mount) Growth rate Acid-fast stain VITEK® MS (MALDI-TOF)	Gram-positive rods Report results Non-motile ≤ 7 days Positive (red colonies) <i>M. abscessus</i>	Gram-positive rods Punctiform Non-motile 3 days Positive (red colonies) <i>M. abscessus</i> (99.9%)
Antibiotic Susceptibility Profile¹ Sensititre™ System ² Amikacin Cefoxitin Ciprofloxacin Clarithromycin Clofazimine Doxycycline Linezolid Moxifloxacin Tigecycline Trimethoprim/sulfamethoxazole Etest® antibiotic test strips 3 days at 37°C in an aerobic atmosphere on Mueller Hinton agar Imipenem Meropenem Tobramycin	Sensitive Resistant Resistant Sensitive Report results Report results Sensitive Resistant Report results Resistant Intermediate Resistant Sensitive	Sensitive (16 µg/mL) Resistant (> 128 µg/mL) Resistant (> 4 µg/mL) Sensitive (≤ 0.06 µg/mL) 0.12 to 0.25 µg/mL ³ Resistant (> 8 µg/mL) Sensitive (4 µg/mL) Resistant (4 µg/mL) < 0.3 µg/mL ³ Resistant (> 4 µg/mL) Resistant (≥ 32 µg/mL) ⁴ Resistant (≥ 32 µg/mL) Sensitive (2 µg/mL)
Genotypic Analysis Digital DNA-DNA hybridization (dDDH) ^{5,6}	≥ 70% for species identification	<i>M. abscessus</i> NCTC 13031 (92.2%) <i>M. abscessus</i> ATCC 19977 (92.2%) <i>M. abscessus</i> subsp. <i>bolletii</i> CIP 108541 (79.2%)

Certificate of Analysis for NR-59672

TEST	SPECIFICATIONS	RESULTS
		<i>M. abscessus</i> subsp. <i>bolletii</i> CCUG 50184 (79.0%) <i>M. abscessus</i> subsp. <i>bolletii</i> BD (78.9%) <i>M. abscessus</i> subsp. <i>massiliense</i> CIP 108297 (76.2%) <i>M. abscessus</i> subsp. <i>massiliense</i> CCUG 48898 (76.1%) <i>M. abscessus</i> subsp. <i>massiliense</i> JCM 15300 (76.0%)
Purity (post-freeze) M7H10 agar with OADC enrichment ⁷ 7 days at 37°C in an aerobic atmosphere with 5% CO ₂ Tryptic Soy agar 7 days at 37°C in an aerobic atmosphere with 5% CO ₂	Growth consistent with expected colony morphology Report results	Growth consistent with expected colony morphology Growth consistent with expected colony morphology
Viability (post-freeze)	Growth	Growth

¹Minimum Inhibitory Concentration (MIC); MIC Interpretation Guideline: CLSI M24S-ED2:2023

²Sensititre™ System *Mycobacterium tuberculosis* MIC Plate, Thermo Scientific™, catalog number MYCOTB

³MIC interpretive standards for this antibiotic with *M. abscessus* are not available.

⁴The susceptibility result for this antibiotic is within one doubling dilution of specification, which is considered an equivalent result.

⁵The whole genome of *M. abscessus*, Clinical Isolate 35 (~ 5.4 megabase pairs) was sequenced using the Illumina® MiSeq® system and was assembled and analyzed using Kraken version 2.1.3 and Unicycler v0.5.0.

⁶Relatedness 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.

⁷M7H10 agar with OADC enrichment contains malachite green, which may inhibit growth of contaminating microorganisms

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