

Certificate of Analysis for NR-30918

Mycobacterium tuberculosis, Strain 99-2424

Catalog No. NR-30918

This reagent is the tangible property of the U.S. Government.

Product Description: *Mycobacterium tuberculosis (M. tuberculosis)*, strain 99-2424 was isolated between 1995 and 2000 from human sputum from an HIV-negative patient infected with pulmonary tuberculosis in North America.

Lot¹: 70004750 Manufacturing Date: 29JUN2017

Phenotypic Analysis² Cellular morphology³ Colony morphology³ Growth rate Growth rate Growth at 26°C Growth at 26°C Growth at 37°C Acid-fast stain Pigmentation in the dark (Scotochromogen) Photoinduction for 1 hour (Photochromogen) Photoinduction for 1 hour (Photochromogen) Nonchromogen (no pigment) Biochemical tests Niacin production⁴ Nitrate reduction Pyrazinamidase Positive Positive Positive Positive Positive (no pigment) Positive (n	TEST	SPECIFICATIONS	RESULTS
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Viability (post-freeze)³ Growth Growth			colony morphology
	Viability (post-freeze) ³	Growth	Growth

¹NR-30918 was produced by inoculation of the deposited material into Middlebrook 7H9 broth with ADC enrichment and grown for 23 days at 37°C in an aerobic atmosphere with 5% CO₂. Broth inoculum was added to Middlebrook 7H10 agar with OADC enrichment kolles, which were grown for 29 days at 37°C in an aerobic atmosphere with 5% CO₂ to produce this lot.

BEI Resources

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²Information on Mycobacterium testing is available from Ribón, W. "Biochemical Isolation and Identification of Mycobacteria." <u>Biochemical Testing.</u> (2012) Jose C. Jimenez-Lopez (Ed.), InTech, http://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacteria and Lévy-Frébault, V. V. and F. Portaels. "Proposed Minimal Standards for the Genus *Mycobacterium* and for Description of New Slowly Growing *Mycobacterium* Species." Int. J. Syst. Bacteriol. 42 (1992): 315-323. PubMed: 1581193.

321 days at 37°C in an aerobic atmosphere with 5% CO₂ on Middlebrook 7H10 agar with OADC enrichment

⁴All mycobacteria produce niacin but only *M. tuberculosis* accumulates it, resulting in a positive test for *M. tuberculosis*.

⁵Sensititre™ System *Mycobacterium tuberculosis* MIC Plate, Thermo Scientific™, catalog number MYCOTB

⁶Minimum Inhibitory Concentration (MIC); No Clinical & Laboratory Standards Institute (CLSI) interpretations of the Sensititre™ System data for *M. tuberculosis* are currently available.

⁷For streptomycin, ethionamide, para-aminosalicylic acid, rifabutin and ethambutol, the endpoint for these drugs is determined by the well with approximately 80% inhibition of growth compared to the positive control well with no drug.

⁸Two MICs were observed for ethionamide (1.2 μg/mL and 2.5 μg/mL) under identical test conditions. The highest MIC is being reported as the test result.

⁹Variability in the MIC result by the Sensititre[™] method has been demonstrated (Lee, J., et al. "Sensititre MYCOTB MIC Plate for Testing *Mycobacterium tuberculosis* Susceptibility to First- and Second-Line Drugs." <u>Antimicrob. Agents Chemother.</u> 58 (2014): 11-18. PubMed: 24100497.), with the results for a single antibiotic typically within one doubling dilution.

¹⁰Two MÍCs were observed for isoniazid (≤ 0.03 μg/mL and 0.06 μg/mL) under identical test conditions. The highest MIC is being reported as the test result

11Two MICs were observed for moxifloxacin (0.25 μg/mL and 0.5 μg/mL) under identical test conditions. The highest MIC is being reported as the test result.

12Two MICs were observed for rifabutin (≤ 0.12 μg/mL and 0.25 μg/mL) under identical test conditions. The highest MIC is being reported as the test result.

13Two MICs were observed for streptomycin (1 μg/mL and 2 μg/mL) under identical test conditions. The highest MIC is being reported as the test result.

¹⁴Also consistent with M. africanum, M. bovis, M. canettii, M. caprae and M. microti

¹⁵Purity of this lot was assessed for 52 days at 37°C in an aerobic atmosphere with 5% CO₂.

16Purity of this lot was assessed for 21 days at 37°C in an aerobic atmosphere with 5% CO₂.



Figure 1: Colony Morphology

16 APR 2018

Program Manager or designee, ATCC Federal Solutions

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