

Certificate of Analysis for NR-123

Mycobacterium tuberculosis, Strain H37Rv

Catalog No. NR-123

Product Description: The H37Rv strain was derived from the virulent parent strain H37. *Mycobacterium tuberculosis (M. tuberculosis)*, strain H37 was isolated in 1905 from the sputum of a patient with chronic pulmonary tuberculosis.

Lot¹: 3685765 Manufacturing Date: 17JUN2004

TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis ²		
Cellular morphology	Gram-positive rod	Gram-positive rod
Colony morphology ³	Report results	Irregular, flat, erose and rough
Growth on Brain Heart Infusion agar	Report results	Growth
Growth on MacConkey agar (without crystal violet)	No growth	No growth
Motility	Non-motile	Non-motile
Acid-fast stain	Positive (Red colonies)	Positive (Red colonies)
Pigmentation (light or dark)	No pigment	No pigment
Photoinduction (1 hour)	No pigment	No pigment
Biochemical tests		
Nitrate reduction	Positive	Positive
Pyrazinamidase⁴	Report results	Negative
Urease	Positive	Positive
Aryl sulfate (3 and 14 days)	Negative	Negative
Catalase (semiquantitative)	Negative	Negative
Iron uptake	Negative	Negative
Tween 80 hydrolysis	Report results	Positive
Growth in the presence of 5% Sodium chloride ⁵	Report results	Positive
Growth in the presence of Thiophene-2 carboxylic acid hydrazide (TCH) ⁴	Report results	Negative
Viability (post-freeze) ²	Growth on agar	Growth on agar

¹NR-123 was produced by propagation of ATCC[®] 25618™ (Lot 52000) on Middlebrook 7H10 Agar with OADC enrichment in an aerobic atmosphere for 4 weeks at 37°C.

Date: 23 MAY 2011 Signature:

Title: Technical Manager, BEI Authentication or designee

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

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²Lévy-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; see also, Kubica, G. P., T. H. Kim, and F. P. Dunbar. "Designation of Strain H37Rv as the Neotype of *Mycobacterium tuberculosis*." Int. J. Syst. Bacteriol. 22 (1972): 99-106.

³4 weeks at 37°C and aerobic atmosphere on Middlebrook 7H10 Agar with OADC enrichment

⁴85% of *M. tuberculosis* strains are positive

⁵Less than 15% of *M. tuberculosis* strains are positive