

***Brucella abortus*, Strain Tulya**

Catalog No. NR-232

(Derived from ATCC® 23450™)

Product Description: *Brucella abortus* (*B. abortus*), strain Tulya was isolated in 1958 from a human. Strain Tulya is the reference strain for biotype 3.

Lot¹: 62014384

Manufacturing Date: 02MAR2015

| TEST | SPECIFICATIONS | RESULTS |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Phenotypic Analysis Cellular morphology Colony morphology ² Motility ³ Biochemical tests Oxidase Urease Hydrogen sulfide production Arginine dihydrolase Arabinose Glucose Xylose | Gram-negative coccobacillus Report results Non-motile Positive Positive (> 5 minutes) Positive Negative Positive Positive Negative | Gram-negative bacillus Irregular, low convex, entire, translucent and cream (Figure 1) Non-motile Positive Positive (> 5 minutes) Positive Negative Positive Positive Positive ⁴ |
| Genotypic Analysis Sequencing of 16S ribosomal RNA gene (~ 1310 base pairs) | ≥ 99% sequence identity to <i>B. abortus</i> , strain Tulya (GenBank: ACBI01000025.1) | 100% sequence identity to <i>B. abortus</i> , strain Tulya (GenBank: ACBI01000025.1) ⁵ |
| Purity (post-freeze)⁶ | Growth consistent with expected colony morphology | Growth consistent with expected colony morphology |
| Viability (post-vialing)² | Growth | Growth |

¹NR-232 was produced by inoculation of ATCC® 23450™ into Tryptic Soy broth and grown 3 days at 37°C in an aerobic atmosphere with 5% CO₂. Broth inoculum was added to Tryptic Soy agar kolles which were grown 3 days at 37°C in an aerobic atmosphere with 5% CO₂ to produce this lot.

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

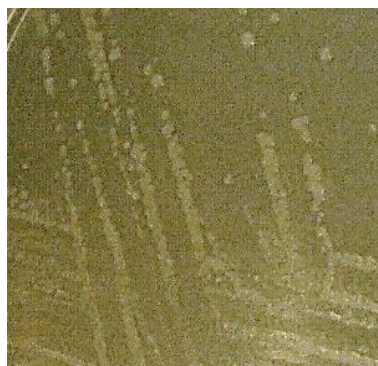
³Motility test performed on Remel™ Motility Test Medium w/TTC indicator for 7 days at 37°C in an aerobic atmosphere with 5% CO₂.

⁴Generally, most strains of *B. abortus* are negative for xylose oxidation (Bergey's Manual® of Systematic Bacteriology, 2nd ed., Volume 2, Part C), NR-232 was tested in duplicate and found to be positive for xylose oxidation using CTA xylose media.

⁵Also consistent with other *Brucella* species

⁶Purity of this lot was assessed for 9 days at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar with 5% defibrinated sheep blood.

Figure 1: Colony Morphology



Date: 14 JUL 2017

Signature: 

Title: Senior Director, Compliance & QA/Chief Compliance Officer

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