

Certificate of Analysis for NR-33706

Streptococcus pyogenes, Strain 11610 (Genotype emm89)

Catalog No. NR-33706

Product Description: Streptococcus pyogenes (S. pyogenes), strain 11610 was isolated in 1997 from the throat of a patient with an uncomplicated pharyngitis infection in Umbria, Italy. S. pyogenes, strain 11610 has been molecularly characterized as an *emm*89, Group A Streptococcus strain and is known to be susceptible to penicillin.

Lot¹: 2216 Manufacturing Date: 14DEC2016

| TEST | SPECIFICATIONS | RESULTS |
|--|--|---|
| Phenotypic Analysis | | |
| Cellular morphology | Gram-positive cocci | Gram-positive cocci |
| Colony morphology ² | Report results | Circular, convex, entire, smooth and cream (Figure 1) |
| Hemolysis on blood agar ³ | Report results | β-hemolytic |
| Motility (wet mount) | Non-motile | Non-motile |
| Biochemical tests: | | |
| Catalase | Negative | Negative |
| VITEK® MS (MALDI-TOF) | Consistent with S. pyogenes | S. pyogenes (99.9%) |
| Genotypic Analysis Sequencing of 16S ribosomal RNA gene (830 base pairs) | ≥ 99% sequence identity to S. pyogenes, genotype emm89 (GenBank: CP013838.1) | 100% sequence identity to S. pyogenes, genotype emm89 (GenBank: CP013838.1) |
| Purity (post-freeze) ⁴ | Growth consistent with expected colony morphology | Growth consistent with expected colony morphology |
| Viability (post-freeze) ² | Growth | Growth |

NR-33706 was produced by inoculation of the deposited material into Tryptic Soy broth. Broth inoculum was added to Tryptic Soy agar with 5% defibrinated sheep blood plates, which were grown for 1 day at 37°C in an aerobic atmosphere, and preserved in Tryptic Soy broth with 10% glycerol. The cryopreserved material was thawed and used to inoculate 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, which were grown for 1 day at 37°C in an aerobic atmosphere with 5% CO₂ to produce this lot.

⁴Purity of this lot was assessed for 7 days at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar with 5% defibrinated sheep blood.





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²1 day at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar.

³1 day at 37°C in an aerobic atmosphere with 5% CO₂ on Tryptic Soy agar with 5% defibrinated sheep blood.



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Date: 04 APR 2017 **Signature:**

BEI Resources Authentication

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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