

## *Yersinia pestis*, Strain TS Derivative 4 (D4)

Catalog No. NR-4687

**Product Description:** *Yersinia pestis* (*Y. pestis*) is an aerobic, non-spore-forming, Gram-negative rod-shaped bacterium. *Y. pestis*, strain TS(D4) is an avirulent derivative that contains the pMT1 and pPCP1 plasmids, but lacks the pCD1 plasmid that is essential for virulence as well as the unstable chromosomal *pgm* locus.

Lot<sup>1</sup>: 58098882

Manufacturing Date: 07MAR2008

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis</b> Cellular morphology Colony morphology <sup>2</sup>  Congo red (CR) agar <sup>3</sup> Biochemical Analyses Analytical profile index (API 20 E®) Nitrate reduction Fermentation of glycerol Urease	Gram-negative rods Report results  No red colonies  Consistent with <i>Y. pestis</i> Positive Negative Negative	Gram-negative rods Circular, convex, entire, opaque (Figure 1) No red colonies  Consistent with <i>Y. pestis</i> Positive Negative Negative
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (~ 1380 bp)	Consistent with <i>Y. pestis</i>	Consistent with <i>Y. pestis</i> <sup>4</sup>
<b>PCR Assay of Extracted DNA</b> 16S ribosomal RNA gene Presence of virulence-associated plasmids pMT1 (pFra; 100 kb plasmid) pCD1 (pYV; 70 kb plasmid) pPCP1 (pPla; 9.5 kb plasmid)	~ 1500 bp amplicon  ~ 1200 bp amplicon None detected ~ 400 bp amplicon	~ 1500 bp amplicon  ~ 1200 bp amplicon None detected ~ 400 bp amplicon
<b>Viability (post-freeze)</b> <sup>3</sup>	Growth on agar	Growth on agar

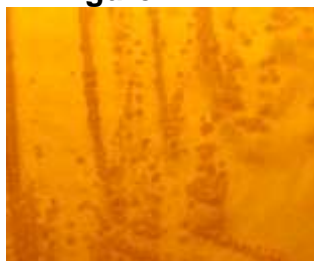
<sup>1</sup>*Y. pestis*, strain TS(D4) was deposited by Professor Robert R. Brubaker of the Department of Microbiology and Molecular Genetics at Michigan State University, East Lansing, Michigan. NR-4687 was prepared by broth (Tryptic Soy Broth; BD 211768) culture of the deposited material for 48 hours at 28°C and aerobic atmosphere.

<sup>2</sup>24 hours at room temperature and 72 hours at 28°C and aerobic atmosphere on Tryptic Soy Agar.

<sup>3</sup>24 hours at room temperature and 72 hours at 28°C and aerobic atmosphere on CR agar.

<sup>4</sup>Also consistent with other *Yersinia* species.

**Figure 1**



**Date:** 02 SEP 2008

**Signature:** Signature on File

**Title:** Technical Manager, BEI Authentication or designee

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