

***Mycobacterium tuberculosis*, Strain
CDC1551, Transposon Mutant 1493
(MT0185, Rv0176)**

Catalog No. NR-18138

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Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Mycobacteriaceae*, *Mycobacterium*

Species: *Mycobacterium tuberculosis*

Strain: CDC1551 (also referred to as CSU93 or Oshkosh)

Transposon Mutant: 1493 (MT0185, Rv0176)¹⁻³

TN: HG0674

ID: Tn0185_174

Original Source: *Mycobacterium tuberculosis* (*M. tuberculosis*), strain CDC1551 is a clinical isolate that exhibited high levels of infectivity and virulence during a tuberculosis outbreak that occurred in rural Kentucky and Tennessee from 1994 to 1996.⁴

Comments: In 2002, **TARGET** (Tuberculosis Animal Research and Gene Evaluation Taskforce) was formed to enable the modeling of human tuberculosis in multiple animal species using defined protocols and testing defined mutants of *M. tuberculosis*. In addition to animal modeling activities, a library of intragenic transposon mutants has been created and characterized.⁵ *M. tuberculosis*, transposon mutant 1493 was created by disruption of a probable conserved MCE-associated transmembrane protein (MT0185, Rv0176) of the wild-type strain CDC1551.

M. tuberculosis is a Gram-positive, rod-shaped aerobic bacterium. It is the causative agent of tuberculosis and is responsible for more morbidity in humans than any other bacterial disease.⁶

Material Provided:

Each vial contains approximately 0.7 mL of bacterial culture in Middlebrook 7H9 broth with ADC enrichment with 10% glycerol. Each tube of lots 59612940 and 59701208 contains a Lowenstein-Jensen (LJ) agar slant that was inoculated with 0.1 mL of bacterial culture and incubated 4 to 8 weeks at 37°C.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:

NR-18138 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Note: Lots 59612940 and 59701208 were packaged aseptically in screw-capped glass test tubes. This product is provided at room temperature and should be stored at 2°C to 8°C upon arrival. Do not freeze.

Growth Conditions:

Media:

Middlebrook 7H9 broth with ADC enrichment or equivalent

Middlebrook 7H10 agar with OADC enrichment or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic (with or without 5% CO₂)

Propagation:

1. Keep vial frozen until ready for use; then thaw.
2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 37°C for 2 to 6 weeks.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Mycobacterium tuberculosis*, Strain CDC1551, Transposon Mutant 1493 (MT0185, Rv0176), NR-18138."

Biosafety Level: 3

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

This publication recommends that practices with this agent include the use of respiratory protection and the implementation of specific procedures and use of specialized equipment to prevent and contain aerosols.

Disclaimers:

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References:

1. TARGET: [MT0185](#)
2. MycoBrowser: Gene [Rv0176](#)
3. Peterson, J. D., et al. "The Comprehensive Microbial Resource." *Nucleic Acids Res.* 29 (2001): 123-125. PubMed: 11125067.
4. Valway, S. E., et al. "An Outbreak Involving Extensive Transmission of a Virulent Strain of *Mycobacterium tuberculosis*." *N. Engl. J. Med.* 338 (1998): 633-639. PubMed: 9486991.
5. Lamichhane, G., et al. "A Postgenomic Method for Predicting Essential Genes at Subsaturating Levels of Mutagenesis: Application to *Mycobacterium tuberculosis*." *Proc. Natl. Acad. Sci. USA* 100 (2003): 7213-7218. PubMed: 12775759.
6. Ducati, R. G., et al. "The Resumption of Consumption – A Review on Tuberculosis." *Mem. Inst. Oswaldo Cruz* 101 (2006): 697-714. PubMed: 17160276.
7. Cole, S. T., et al. "Deciphering the Biology of *Mycobacterium tuberculosis* from the Complete Genome Sequence." *Nature* 393 (1998): 537-544. PubMed: 9634230. Erratum in: *Nature* 396 (1998): 190-198.
8. de la Paz Santangelo, M., et al. "Mce3R, a TetR-Type Transcriptional Repressor, Controls the Expression of a Regulon Involved in Lipid Metabolism in *Mycobacterium tuberculosis*." *Microbiology* 155 (2009): 2245-2255. PubMed: 19389781.

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