

Product Information Sheet for NR-28788

***Salmonella enterica* subsp. *enterica*, Strain TN061786 (Serovar Typhimurium)**

Catalog No. NR-28788

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Enterobacteriaceae*, *Salmonella*

Species: *Salmonella enterica*

Subspecies: *Salmonella enterica* subsp. *enterica*

Serovar: Typhimurium¹

Strain: TN061786 (deposited as strain SL481)

Original Source: *Salmonella enterica* (*S. enterica*) subsp. *enterica*, strain TN061786 was isolated in 2006 from human stool in Tennessee, USA.¹

Comment: The complete genome for *S. enterica* subsp. *enterica*, strain TN061786 was sequenced at the [Virginia Bioinformatics Institute](#) (GenBank: [AERV00000000](#)).

S. enterica are Gram-negative, rod-shaped, flagellated bacteria. The species is divided into six subspecies (I, II, IIIa, IIIb, IV, VI) where only subspecies I, subsp. *enterica*, is considered of clinical relevance.² Salmonellosis (non-typhoidal), due to the greater than 1500 serovars of *S. enterica* subsp. *enterica*, is one of the most common food-borne diseases with approximately 1 million cases that occur in the United States every year.³ Pathogenicity results from a variety of virulence factors found in plasmids, prophages, and five pathogenicity islands which allow these organisms to colonize and infect host organisms.^{4,5}

S. enterica subsp. *enterica* serovar Typhimurium (formerly *Salmonella typhimurium*) is a major cause of gastroenteritis. These bacteria are host generalists that occur in humans and many other mammals. Septic shock resulting in part from lipopolysaccharide (LPS) is a primary complication associated with serovar Typhimurium infection.⁶ Due to its similarity to the clinical and pathological effects in humans, calves are currently used as an animal model for human enterocolitis caused by this serotype.⁷ Additionally, this serovar causes typhoid-like disease in mice and is used as a mouse model of human typhoid fever.⁸

The complete genome sequence of several strains of *S. enterica* subsp. *enterica* serovar Typhimurium are in progress [strain DT104 (Definitive Type 104; a multidrug resistant strain), strain SL1344 (a genetically marked subline of a calf-virulent isolate), and strain TR7095 (a wild-type strain)] and strain LT2 has been completed (GenBank: [AE006468](#)).⁸

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in 0.5X Nutrient broth supplemented with 10% glycerol.

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

Packaging/Storage:

NR-28788 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.

Growth Conditions:

Media:

Tryptic Soy broth or Nutrient broth or equivalent

Tryptic Soy agar with 5% defibrinated sheep blood or Nutrient agar or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic

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 24 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Salmonella enterica* subsp. *enterica*, Strain TN061786 (Serovar Typhimurium), NR-28788."

Biosafety Level: 2

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.

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References:

1. Dr. M. K. Mammel, personal communication
2. Grimont, P. A. D. and F. X. Weill. Antigenic Formulae of the *Salmonella* Serovars, 2007, 9th edition. Paris: WHO Collaborating Centre for Reference and Research on *Salmonella*, Pasteur Institute.
3. Scallan, E., et al. "Foodborne Illness Acquired in the United States – Major Pathogens." Emerg. Infect. Dis. 17 (2011): 7-15. PubMed: 21192848.
4. Lavigne, J. P. and A. B. Blanc-Potard. "Molecular Evolution of *Salmonella enterica* Serovar Typhimurium and Pathogenic *Escherichia coli*: From Pathogenesis to Therapeutics." Infect. Genet. Evol. 8 (2008): 217-226. PubMed: 18226587.
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6. Sha, J., et al. "The Two Murein Lipoproteins of *Salmonella enterica* Serovar Typhimurium Contribute to the Virulence of the Organism." Infect. Immun. 72 (2004): 3987-4003. PubMed: 15213144.
7. Zhang, S., et al. "The *Salmonella enterica* Serotype Typhimurium Effector Proteins SipA, SopA, SopB, SopD, and SopE2 Act in Concert to Induce Diarrhea in Calves." Infect. Immun. 70 (2002): 3843-3855. PubMed: 12065528.
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