Product Information Sheet for NR-20742

Salmonella enterica subsp. *enterica*, Strain MDCH01 (Serovar Tennessee)

Catalog No. NR-20742

For research use only. Not for human use.

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Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: *Enterobacteriaceae*, *Salmonella*
Species: *Salmonella enterica*
Subspecies: *Salmonella enterica* subsp. *enterica*
Serovar: Tennessee[1]
Strain: MDCH01
Original Source: *Salmonella enterica* (*S. enterica*) subsp. *enterica* serovar Tennessee, strain MDCH01 was isolated in January 2007 from the stool of a 58-year-old male patient in Michigan, USA.[1]

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]

Infection by *S. enterica* subsp. *enterica* serovar Tennessee (formerly *Salmonella tennessee*) is rare but able to cause gastroenteritis and infect the host urinary tract. Despite the rare occurrence of infection, salmonellosis outbreaks have been attributed to contaminated peanut butter[6] and powdered milk products and infant formula.[7] Resistance to high temperature and low moisture has led to increasing concerns in food processing and manufacturing.[8]

Material Provided:
Each vial contains approximately 0.5 mL of bacterial culture in 0.5X Tryptic Soy Broth supplemented with 10% glycerol.

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

Packaging/Storage:
NR-20742 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 equivalent
Tryptic Soy 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 MDCH01 (Serovar Tennessee), NR-20742."

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/bmbl5/index.htm.

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References:

1. Dr. S. Baqar, 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.
5. Parsons, D. A. and F. Heffron. "*sciS*, an *icmF* Homolog in *Salmonella enterica* Serovar Typhimurium, Limits Intracellular Replication and Decreases Virulence." Infect. Immun. 73 (2005): 4338-4345. PubMed: 15972528.
6. Centers for Disease Control and Prevention (CDC). "Multistate Outbreak of *Salmonella* Serotype Tennessee Infections Associated with Peanut Butter – United States, 2006-2007." MMWR Morb. Mortal. Wkly. Rep. 56 (2007): 521-524. PubMed: 17538526.
7. Centers for Disease Control and Prevention (CDC). "*Salmonella* Serotype Tennessee in Powdered Milk Products and Infant Formula – Canada and United States, 1993." MMWR Morb. Mortal. Wkly. Rep. 42 (1993): 516-517. PubMed: 8515742.
8. Sheth, A. N., et al. "A National Outbreak of *Salmonella* Serotype Tennessee Infections From Contaminated Peanut Butter: A New Food Vehicle for Salmonellosis in the United States." Clin. Infect. Dis. 53 (2011): 356-362. PubMed: 21810748.

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