Salmonella enterica subsp. *enterica*, Strain S8934 (Serovar Typhimurium)

Catalog No. NR-22071

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*[1,2]
Serogroup: B
Serovar: Typhimurium
Strain: S8934
Original Source: *Salmonella enterica* (*S. enterica*) subsp. *enterica*, strain S8934 was isolated in 2004 from cattle feces in Washington State, USA.[3]
Comments: *S. enterica* subsp. *enterica*, strain S8934 is a multi-drug resistant strain that is reported to be resistant to ampicillin, chloramphenicol, kanamycin, sulfa-trimethoprim, streptomycin, tetracycline and ceftazidime. Strain S8934 is reported to contain an approximately 110 kilobase pair *bla*$_{CMY-2}$ plasmid.[3,4]

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. 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 an estimated two million cases that occur in the United States every year.[5] 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.[6,7]

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.[8] 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.[9] Additionally, this serovar causes typhoid-like disease in mice and is used as a mouse model of human typhoid fever.[10]

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).[10]

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-22071 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 S8934 (Serovar Typhimurium), NR-22071."

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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