

***Salmonella enterica* subsp. *enterica*, 2004 Pennsylvania Tomato Outbreak, Serovar Javiana, Isolate 12**

Catalog No. NR-4307

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Contributor:

Carol H. Sandt, Molecular Microbiology Section, Bureau of Laboratories, Pennsylvania Department of Health, Lionville, Pennsylvania

Product Description:

Bacteria Classification: *Enterobacteriaceae*, *Salmonella*

Species: *Salmonella enterica*

Subspecies: *Salmonella enterica* subsp. *enterica*^{1,2}

Serogroup: D1

Serovar: Javiana

Isolate: 12

Original Source: Human stool from a patient with diarrhea during the 2004 *Salmonella* outbreak in Pennsylvania

Comments: The 2004 *Salmonella* outbreak was linked to the consumption of Roma tomatoes from deli counters of a chain of 302 gas station convenience stores in Pennsylvania and four nearby states. Multiple serotypes of *Salmonella enterica* were implicated.^{3,4}

Salmonella enterica (*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 2 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

S. enterica subsp. *enterica* serovar Javiana (formerly *Salmonella javiana*) is found in domestic and wild animals and is generally spread to humans via consumption of contaminated water or food resulting in gastroenteritis. It is one of the more common serovars causing disease in the U.S. The genomic sequence of *S. enterica* subsp. *enterica*, strain GA_MM04042433, serovar Javiana is being assembled (GenBank: ABEH00000000).

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-4307 was packaged aseptically, in screw-capped plastic cryovials. The product is provided frozen and should be stored at -70°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 tubes and plate at 37°C for 24 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Salmonella enterica* subsp. *enterica*, 2004 Pennsylvania Tomato Outbreak, Serovar Javiana, Isolate 12, NR-4307."

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, 2007; see www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm.

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References:

1. Judicial Commission of the International Committee on Systematics of Prokaryotes. "The Type Species of the Genus *Salmonella* Lignierres 1900 Is *Salmonella enterica* (ex Kauffmann and Edwards 1952) Le Minor and Popoff 1987, with the Type Strain LT2^T, and Conservation of the Epithet *enterica* in *Salmonella enterica* over All Earlier Epithets that May Be Applied to This Species. Opinion 80." Int. J. Syst. Evol. Microbiol. 55 (2005): 519-520. PubMed: 15653929.
2. Tindall, B. J., et al. "Nomenclature and Taxonomy of the Genus *Salmonella*." Int. J. Syst. Evol. Microbiol. 55 (2005): 521-524. PubMed: 15653930.
3. Sandt, C. H., et al. "The Key Role of Pulsed-Field Gel Electrophoresis in Investigation of a Large Multiserotype and Multistate Food-Borne Outbreak of *Salmonella* Infections Centered in Pennsylvania." J. Clin. Microbiol. 44 (2006): 3208-3212. PubMed: 16954249.
4. Centers for Disease Control and Prevention (CDC). "Outbreaks of *Salmonella* Infections Associated with Eating Roma Tomatoes--United States and Canada, 2004." Morb. Mortal. Wkly. Rep. 54 (2005): 325-328. PubMed: 15815562.
5. Altekruze, S. F., M. L. Cohen, and D. L. Swerdlow. "Emerging Foodborne Diseases." Emerg. Infect. Dis. 3 (1997): 285-293. PubMed: 9284372.
6. 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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