Product Information Sheet for NR-12158

Salmonella enterica subsp. *enterica*, Strain 14028s *phoPQ*::kan^r (Serovar Typhimurium)

Catalog No. NR-12158

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*[1,2]
Serogroup: B
Serovar: Typhimurium
Strain: 14028s *phoPQ*::kan^r[3]
Original Source: *Salmonella enterica* (*S. enterica*) subsp. *enterica*, strain 14028s *phoPQ*::kan^r (serovar Typhimurium) was derived from strain 14028s (strain 14028s was originally known as strain 14028, however, a variant of the original strain with a rough colony morphology was designated 14028r and the original smooth strain was renamed 14028s). Strain 14028 is a descendent of strain CDC 6516-60 which was isolated from pools of hearts and livers of 4-week-old chickens.[4]
Comments: The *phoPQ*::kan^r mutant of strain 14028s was produced by creating a PCR product with *phoPQ* homologous sequences at the 5' and 3' ends of a linear fragment containing a kanamycin resistance cassette. *S. enterica* subsp. *enterica*, strain 14028s was transformed, and insertion of the *kan* cassette in place of *phoPQ* was confirmed by PCR.[5] The complete genome (GenBank: CP001363.1) and plasmid (GenBank: CP001362.1) sequences are available. Additional information regarding NR-12158 is available at the Resource Center for Biodefense Proteomics Research (BPRC).

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.[6] 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.[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.[4]

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-12158 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 14028s *phoPQ*::kan^r (Serovar Typhimurium), NR-12158."

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:

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