

Yersinia pestis, Strain A1122

Catalog No. NR-15

(Derived from ATCC® 11953™)

For research use only. Not for use in humans.

Contributor:

ATCC®

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Enterobacteriaceae*, *Yersinia*

Species: *Yersinia pestis*

Biotype/Biovar: Orientalis

Strain: A1122

Original Source: *Yersinia pestis* (*Y. pestis*), strain A1122 was isolated from a California ground squirrel (*Spermophilus beecheyi*) in California, USA, 1939.¹

Comments: *Yersinia pestis*, strain A1122 was deposited at ATCC® in 1954 by Dr. J. B. Gunnison, Department of Microbiology, University of California School of Medicine, San Francisco, California. The complete genome sequence of *Y. pestis*, strain A1122 has been sequenced (GenBank: [CP002956.1](https://www.ncbi.nlm.nih.gov/nuccore/CP002956.1)).

Yersinia pestis (*Y. pestis*) is the etiologic agent of bubonic, septicemic and pneumonic plague. Three biovars have been associated with the three historically recognized pandemics of *Y. pestis*. Rodents are the main reservoir, but humans and other animals can also serve as hosts.

Y. pestis is an aerobic, non-spore-forming, gram-negative, rod-shaped bacterium. Virulence-associated genes are located on the chromosome and on three plasmids found in typical virulent *Y. pestis* strains: 1) pMT1 (pFra; ~ 110kb), which encodes a murine toxin and capsular protein with anti-phagocytic activities, 2) pCD1 (pYV; ~ 70 kb), which encodes a type III secretion system and is essential for virulence and 3) pPCP1 (pPla; ~ 9.5 kb monomer or ~ 19 kb dimer), which encodes a protease that facilitates the initial dissemination of the bacteria to the lymph nodes.² Virulence factors on the chromosome are located in an unstable locus, *pgm*.³

Y. pestis, strain A1122 contains the 110 kb and the 19 kb plasmids, but lacks the 70 kb plasmid that is essential for virulence as well as the unstable *pgm* locus.^{4,5,6}

The presence of the 110 kb and 19 kb plasmids in NR-15 has been confirmed by PCR amplification of plasmid-specific sequences from extracted DNA

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in 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-15 was packaged aseptically in 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 Brain Heart Infusion broth

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

Incubation:

Temperature: 28°C or 37°C⁷

Atmosphere: Aerobic with 5% CO₂

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 28°C or 37°C for 1 to 2 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Yersinia pestis*, Strain A1122, NR-15."

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 \(BMBL\)](#), 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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References:

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