

***Bartonella quintana*, Strain JK31**

Catalog No. NR-31832

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Bartonellaceae*, *Bartonella*

Species: *Bartonella quintana*

Strain: JK31

Original Source: *Bartonella quintana* (*B. quintana*), strain JK31 was isolated in March 1993 from a cutaneous bacillary angiomatosis lesion of a human patient in San Francisco, California, USA, who presented with bacillary angiomatosis subcutaneous nodules and bacteremia.¹

Comments: *B. quintana*, strain JK31 was deposited to BEI Resources as BQ Marseille-type and is part of a [Bartonella Group Database Sequencing Project](#) at the Broad Institute.² The complete genome for *B. quintana*, strain JK31 is available (GenBank: [AHPG00000000](#)).

Bartonella spp. are fastidious, slow-growing, Gram-negative rods that are dependent on blood or hemin for growth. *Bartonella* exist in two niches – the gut of arthropod vectors and the bloodstream of the mammalian reservoir. They are incapable of living freely in the environment (with the exception of living in excreted feces from the arthropod vectors they reside in).³ *Bartonella* infection of the mammalian host occurs when the organisms gain entry through feces that is deposited at the site of an infected arthropod bite. The mammal then self-inoculates by scratching the bite. Well known human maladies that result from *Bartonella* spp. infection are Cat Scratch Disease (*B. henselae*, cat flea), Trench Fever (*B. quintana*, human body louse), and Carrion’s Disease (*B. bacilliformis*, sandfly). Host specificity has been observed for *Bartonella* spp. when both arthropod and mammalian hosts are known.⁴ Known virulence factors include a type IV secretion system, a family of hemin binding protein and outer membrane adhesions.^{5,6}

In addition to Trench Fever, *B. quintana* infections cause endocarditis, bacillary angiomatosis-peliosis, and chronic bacteremia in humans and have been associated with subcutaneous and deep soft-tissue disease and lytic bone lesions.⁷⁻⁹

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in Heart Infusion broth supplemented with 12.5% glycerol.

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

Packaging/Storage:

NR-31832 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:

Heart Infusion broth or equivalent
Chocolate agar or Tryptic Soy agar with 5% defibrinated sheep blood or Columbia blood agar or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic with 5% CO₂

Propagation:

1. Keep vial frozen until ready for use; thaw slowly.
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 7 to 21 days.

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Bartonella quintana*, Strain JK31, NR-31832.”

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/bmb15/index.htm.

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References:

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4. Alsmark, C. M., et al. "The Louse-Borne Human Pathogen *Bartonella quintana* is a Genomic Derivative of the Zoonotic Agent *Bartonella henselae*." *Proc. Natl. Acad. Sci. USA* 101 (2004): 9716-9721. PubMed: 15210978.
5. Schroder, G. and C. Dehio. "Virulence-Associated Type IV Secretion Systems of *Bartonella*." *Trends Microbiol.* (13) 2005: 336-42. PubMed: 15935675.
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