Product Information Sheet for NR-31059

Bartonella tamiae, Strain Th307

Catalog No. NR-31059

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Bartonellaceae, Bartonella*
Species: *Bartonella tamiae*
Strain: Th307
Original Source: *Bartonella tamiae (B. tamiae)*, strain Th307 was isolated in March 2007 from a blood clot of an asymptomatic 41-year-old female following possible rat exposure in Khon Kaen Province, Thailand.[1-3]
Comments: *B. tamiae*, strain Th307 is part of a Bartonella Group Database Sequencing Project at the Broad Institute. The complete genome for *B. tamiae*, strain Th307 is available (GenBank: AIMG00000000).[4]

Bartonella spp. are fastidious, slow-growing, Gram-negative rods that are dependent on blood or hemin for growth. *Bartonella e*xist 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).[5] *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 Carrión's Disease (*B. bacilliformis*, sandfly). Host specificity has been observed for *Bartonella* spp. when both arthropod and mammalian hosts are known.[6] Known virulence factors include a type IV secretion system, a family of hemin binding protein and outer membrane adhesions.[7,8]

B. tamiae, strain TH307 has produced disease in mouse models of infection that are consistent with clinical disease in human patients.[3]

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-31059 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
Bartonella Chocolate agar or Tryptic Soy agar with 5% defibrinated sheep blood or equivalent
Incubation:
Temperature: 37°C
Atmosphere: Aerobic with 5% CO_2
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 or 8 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Bartonella tamiae*, Strain Th307, NR-31059."

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:

1. Kirby, J. E., Personal Communication.
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3. Colton, L., et al. "Human Isolates of *Bartonella tamiae* Induce Pathology in Experimentally Inoculated Immunocompetent Mice." BMC Infect. Dis. 10 (2010): 229. PubMed: 20673363.
4. Kirby, J. E., et al. "Characterization of Pathogenicity and Ecology of *Bartonella* Species Through Whole Genome Sequence Analysis." Broad Institute. (2009) <http://www.broadinstitute.org/annotation/genome/Bartonella_group/MultiHome.html>
5. Brenner, D. J., et al. "Proposals to Unify the Genera *Bartonella* and *Rochalimaea*, with Descriptions of *Bartonella quintana* comb. nov., *Bartonella vinsonii* comb. nov., *Bartonella henselae* comb. nov., and *Bartonella elizabethae* comb.nov., and to Remove the Family *Bartonellaceae* from the Order *Rickettsiales*." Int. J. Syst. Bacteriol. 43 (1993): 777-786. PubMed: 8240958.
6. 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.
7. Schroder, G. and C. Dehio. "Virulence-Associated Type IV Secretion Systems of *Bartonella*." Trends Microbiol. (13) 2005: 336-42. PubMed: 15935675.
8. Schmiederer, M. and B. Anderson. "Cloning, Sequencing, and Expression of Three *Bartonella henselae* Genes Homologous to the *Agrobacterium tumefaciens* VirB Region." DNA Cell Biol. (19) 2000: 141-147. PubMed: 10749166.

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