

***Brucella abortus*, Strain 19 (S19)**

Catalog No. NR-10134

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Brucellaceae*, *Brucella*

Species: *Brucella abortus*

Strain: 19 (also referred to as S19)

Biovar: 1¹

Original Source: *Brucella abortus* (*B. abortus*), strain 19 (S19) was isolated in 1923 from cow's milk in Maryland USA.²

Comment: *B. abortus*, strain 19 (S19) is a spontaneously attenuated strain that has been widely used as a vaccine for bovine animals, but is known to induce abortions in pregnant bovines and is virulent for humans.^{2,3} The complete genome sequence of *B. abortus*, strain 19 is available (GenBank: [CP000887.1](https://www.ncbi.nlm.nih.gov/nuclseq/CP000887.1) and [CP000888.1](https://www.ncbi.nlm.nih.gov/nuclseq/CP000888.1)).

Brucella species are the etiological agents of brucellosis, a zoonotic disease endemic in many areas of the world, and characterized by chronic infections in animals leading to abortion and infertility. Transmission from animal to human via contact with infected animal products or through the air may lead to Malta (or undulant) fever, a long debilitating disease treatable by a prolonged course of antibiotics. *Brucella* species are recognized as potential agricultural, civilian and military bioterrorism agents. A feature that distinguishes *Brucella* species from other pathogenic organisms is the lack of expression of classical virulence factors. Thus, identification of virulence factors has been elusive and some of the identifications are putative.⁴

B. abortus is a non-motile, aerobic, Gram-negative coccobacillus which displays a moderate degree of human virulence.

Material Provided:

Each vial contains approximately 0.7 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-10134 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 equivalent

Tryptic Soy agar or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic

Propagation:

1. Keep vial frozen until ready for use; thaw slowly.
2. Transfer the entire thawed aliquot into a single tube of Tryptic Soy broth.
3. Use several drops of the suspension to inoculate a Tryptic Soy agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 37°C for 1 to 3 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Brucella abortus*, Strain 19 (S19), NR-10134."

Biosafety Level: 3

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:

1. Roop, M. R. II, Personal Communication.
2. Dorneles, E. M. S., N. Sriranganathan and A. P. Lage. "Recent Advances in *Brucella abortus* Vaccines." Vet. Res. 46 (2015): 76. PubMed: 26155935.
3. Lalsiamthara, J. and J. H. Lee. "Development and Trial Vaccines against *Brucella*." J. Vet. Sci. 18 (2017): 281-290. PubMed: 28859268.
4. Seleem, M. N., S. M. Boyle and N. Sriranganathan. "*Brucella*: A Pathogen without Classic Virulence Genes." Vet. Microbiol. 129 (2008): 1-14. PubMed: 18226477.
5. Stableforth, A. W. and L. M. Jones. "Report to the Subcommittee on Taxonomy of the Genus *Brucella*: Speciation in the Genus *Brucella*." Intl. Bull. of Bacteriol. Nomenclature and Taxonomy 13 (1961): 145-158.

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