**Brucella melitensis**, Strain 16MΔvjbR

**Catalog No. NR-50276**
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**For research use only. Not for human use.**

**Contributor:**
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**Manufacturer:**
BEI Resources

**Product Description:**

**Bacteria Classification:** Brucellaceae, Brucella  
**Species:** Brucella melitensis  
**Biotype/Biovar:** 1  
**Strain:** 16MΔvjbR

**Original Source:** Brucella melitensis (B. melitensis), strain 16MΔvjbR is attenuated for virulence in mice and small ruminants through modification of *B. melitensis*, strain 16M, following passage in a Spanish goat. The parent strain, 16M (BEI Resources NR-256, ATCC® 23456™) was isolated from an infected goat by the Bureau of Animal Industry in Washington, DC and deposited to ATCC® in 1967 by Dr. W. J. Brinley-Morgan, Head, Diseases of Breeding Department, The Central Veterinary Laboratory, Ministry of Agriculture, Fisheries and Food, New Haw, Weybridge, Surrey, England.

**Comments:** B. melitensis, strain 16MΔvjbR contains a deletion of the vjbR gene which prevents expression of VirB, thus rendering the strain avirulent in mice and susceptible to death in phagocytes. The vjbR gene (locus BMEII1116) encodes the luxR-like quorum-sensing-related transcriptional regulator. Strain 16MΔvjbR is non-lethal to immunocompromised mice and does not cause abortion in pregnant sheep or fever in Rhesus macaques. The complete genome sequence of the parent strain, *B. melitensis*, strain 16M, is available (GenBank: AE008917 and AE008918).

*B. melitensis*, strain 16MΔvjbR is excluded from Select Agent status. Please refer to the Select Agent Exclusions at the Federal Select Agent Program website for more information.

*B. melitensis* is a non-motile, aerobic, Gram-negative coccobacillus which displays the highest degree of human virulence among *Brucella* species. A type IV secretion system has been identified as essential for intracellular survival and multiplication of *Brucella*.³

*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.⁴

**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-50276 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:**

**Note:** Passage of this organism can result in the accumulation of rough variants. It is recommended that working stocks are prepared from a frozen seed stock.

**Media:**
Brucella or Tryptic Soy broth or equivalent  
Brucella or Tryptic Soy agar or Tryptic Soy agar with 5% defibrinated sheep blood 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 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 1 to 3 days.

**Citation:**
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Brucella melitensis, Strain 16MΔvjbR, NR-50276."

**Biosafety Level:** 3

**Disclaimers:**
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It is not intended for human use.

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References:

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