Borrelia burgdorferi, Strain B31 (Clone 5A1)

Catalog No. NR-13251

For research use only. Not for human use.

Contributor:
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Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: Borrelia (previously Spirochaetaceae), Borrelia
Species: Borrelia burgdorferi
Strain: B31 (clone 5A1)

Original Source: Borrelia burgdorferi (B. burgdorferi), strain B31 (clone 5A1) was derived from the original B31 strain. The original B31 strain was isolated in the fall of 1981 from adult ticks (Ixodes dammini also referred to as Ixodes scapularis) collected from lower vegetation on Shelter Island, New York, USA.2,3

Comments: B. burgdorferi, strain B31 (clone 5A1) lacks the 5-kb and 56-kb linear plasmids (lp5 lp56) of the parent B31 strain but is known to retain the other nineteen plasmids found in strain B31.4 Continuous passage of B. burgdorferi is known to cause spontaneous loss of plasmids. The complete genome sequence of B. burgdorferi, strain B31 is available (GenBank: AE000783).5

B. burgdorferi is a Gram-negative, motile spirochete.3 It is a zoonotic, vector-borne pathogen transmitted by ticks and the etiologic agent of Lyme disease, now the most common tick-transmitted disease in the United States.5 B. burgdorferi is predominant in North America, but also exists in Europe.

Material Provided:
Each vial contains approximately 0.5 mL of bacterial culture in Revised Barbour-Stoenner-Kelly medium supplemented with 10% glycerol.

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

Packaging/Storage:
NR-13251 was packaged aseptically, in screw-capped plastic cryovials. The product is provided frozen and should be stored at -80°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: Revised Barbour-Stoenner-Kelly medium (see Appendix I)5 or equivalent

Incubation:
Temperature: 32°C to 34°C (growth at 37°C may result in plasmid loss)
Atmosphere: Microaerophilic (slower growth occurs under aerobic conditions)

Propagation:
1. Keep vial in dry ice during inoculations.
2. Inoculate new cultures from scraping of frozen stock into a single tube of Revised Barbour-Stoenner-Kelly medium.
3. Incubate the tube at 32 to 34°C for 2 to 14 days. Do not shake culture during growth.

Note: Subculturing should be minimized to avoid plasmid loss.4,7

Citation:
Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: Borrelia burgdorferi, Strain B31 (Clone 5A1), NR-13251.”

Biosafety Level: 2

Disclaimers:
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References:

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Appendix I: Revised BSK Medium (ATCC® Medium: 1914)

HEPES...........................................5.64 g
Neopeptone....................................4.7 g
Sodium citrate....................................0.7 g
Glucose......................................5.64 g
NaHCO₃......................................2.0 g
TC-Yeastolate ....................................2.0 g
Sodium pyruvate.............................0.75 g
N-acetylglucosamine.......................0.37 g
Bovine serum albumin, fraction V.........47.0 g
CMRL 1066, 10X (w/o Glutamine or NaHCO₃)......100.0 mL
Rabbit serum (heat inactivated)...........60.0 mL
Distilled water.................................840 mL

For agar, add 0.8% agarose.

Dissolve ingredients up to and including bovine serum albumin one at a time in distilled water. Adjust to pH 7.5 with NaOH and filter-sterilize. Aseptically add CMRL 1066 and rabbit serum. Mix well and aseptically dispense into appropriate vessel. Final pH of complete medium should be 7.5 - 7.6.