Native Borrelia Burgdorferi Cells

Cat. No. BOR-026 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Heat-killed Borrelia burgdorferi cells in dextran solution. Antigen is intended for use as a positive control in immunoassay development for Borrelia detection.
Background	Lyme disease is a multisystem disorder caused by three species of the tick-borne spirochete Borrelia burgdorferi sensu lato; namely Borrelia burgdorferi sensu stricto (United States and Europe), Borrelia garinii and Borrelia afzelii (Europe). The disease was first recognized in Lyme, Connecticut, United States in 1975, and Borrelia burgdorferi was described as the causative organism in 1982. However, the clinical manifestations of the disorder were previously described by Afzelius in Europe in the early 1900's (Zouyan & Coburn, 2017). Borrelia are loosely coiled, spiral, microaerophilic bacteria with 3 to 10 loose coils arranged in a helical shape. The cells contain at least seven periplasmic flagella that are responsible for the organism's motility (Wormser, 2012). B. burgdorferi resembles other spirochetes in that it has an outer membrane and inner membrane with a thin layer of peptidoglycan in between. However, the outer membrane lacks lipopolysaccharide. Its shape is a flat wave. It is about 0.3 μm wide and 5 to 20 μm in length. It is a slow-growing microaerophilic spirochete with a doubling time of 24 to 48 hours. Borrelia burgdorferi sensu lato (or B. burgdorferi in the general sense) consists of 14 closely related genospecies. However, the human infection is caused primarily by three genospecies. In the United States, B. burgdorferi sensu stricto (B. burgdorferi in the strict sense), is the sole cause of the disease, whereas Borrelia afzelii and Borrelia garinii are the primary causes in Europe and Asia (Steere, 2015). Each of these genospecies is associated with different enzootic lifecycles and clinical manifestations. Borrelia afzelii is mostly associated with skin manifestations, whereas

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	B. garinii is considered to be the most neurotropic and B. burgdorferi s.s. the most arthritogenic. These genospecies are associated with different vertebrate host species. Borrelia afzelii is associated with rodents, whereas B. garinii is associated with birds (van Duijvendijk et al., 2015).
Notes	This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations.
Type	Native
ClassID 1	Infectious Disease

GENE INFORMATION

Synonyms	Borrelia Burgdorferi

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