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Anti-VlsE (Rabbit) Antibody
VlsE Antibody
Catalog # ASR4463

Specification

Anti-VlsE (Rabbit) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Borrelia burgdorferi**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**Anti-VlsE antibody has been tested in ELISA and Western Blot. Specific conditions for reactivity should be optimized by the end user. Expect a band at ~36.3 kDa in size corresponding to VlsE by Western blotting in the appropriate cell lysate or extract.**
Physical State	**Lyophilized**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**MBP recombinant protein corresponding to Borrelia burgdorferi VlsE protein.**
Reconstitution Volume	**100 µL**
Reconstitution Buffer	**Restore with deionized water (or equivalent)**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-VlsE (Rabbit) Antibody - Additional Information

Other Names
11473645

Purity
This product was Protein-A purified and cross-adsorbed against MBP from monospecific antiserum by chromatography. This antibody is specific for Borrelia burgdorferi VlsE protein. A BLAST analysis was used to suggest reactivity with VlsE from B. burgdorferi sources based on 100% homology with the immunizing sequence. Cross-reactivity with VlsE from other sources has not been determined.

Storage Condition
Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

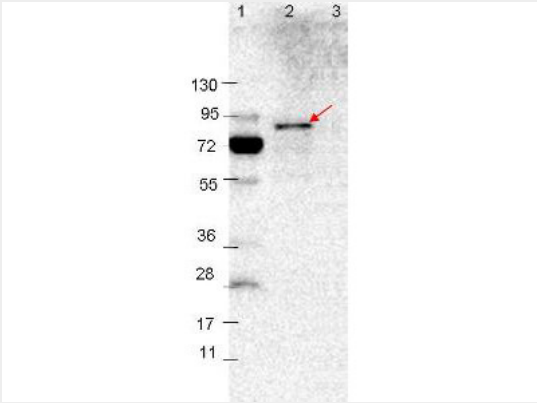
Anti-VlsE (Rabbit) Antibody - Protein Information

Anti-VlsE (Rabbit) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-VlsE (Rabbit) Antibody - Images



Western blot showing detection of 0.1 µg of recombinant VlsE protein. Lane 1: Molecular weight markers. Lane 2: MBP-VlsE fusion protein (arrow; expected MW: 78.8 kDa). Lane 3: MBP alone. Protein was run on a 4-20% gel, then transferred to 0.45 µm nitrocellulose. After blocking with 1% BSA-TTBS (p/n MB-013, diluted to 1X) overnight at 4°C, primary antibody was used at 1:1000 at room temperature for 30 min. HRP-conjugated Goat-Anti-Rabbit (p/n 611-103-122) secondary antibody was used at 1:40,000 in MB-070 blocking buffer and imaged on the VersaDoc™ MP 4000 imaging system (Bio-Rad).

Anti-VlsE (Rabbit) Antibody - Background

Variable Lipoprotein Surface-Exposed protein, or VlsE, is a lipoprotein on the surface of the Lyme Disease spirochete Borrelia burgdorferi, detectable during all its life stages. It can exist as many different isoforms. VlsE has variable regions (VRs) and invariable regions (IRs). Some IRs are anchored in the outer membrane of the bacteria and some are antigens exposed on the membrane surface. Replacement of the VR by Borrelia within days of being transferred to a mammalian host presents new surface antigens to the host immune system, and helps Borrelia avoid a strong reaction by host immune systems. The VlsE is apparently not modified as much in the tick or in the rodent vector, when compared to in the mammal host. Several putative envelope proteins of B. burgdorferi appear to be expressed only in the infected mammalian host. The VRs are antigenic, irregularly shaped loops on the bacterial surface which may help to hide both membrane-incorporated and surface portions of adjacent proteins from immune cells. These VR loops are coded by antigenic cassettes. The protein loops can therefore be switched in or out of the protein, or different type loops traded. In B. burgdorferi there seem to be at least fifteen different

VlsE cassettes that can insert into any of the variable regions of VlsE, allowing it to appear as millions of different antigens. Similar, but smaller, systems also operate for OSP-A, OSP-B, OSP-C, and other proteins. Some current research involves determination of control of cassette activation. One IR region, C6, of the VlsE protein, consistently stimulates a strong immune response. Its presentation may be a decoy that misdirects the immune system from less protected sites by causing competition for binding antibodies. The bound antibodies are thus not available for binding important therapeutic proteins. This may help Borrelia to enter T-cells, leading to their destruction. Because IR6 is invariable and found in all life stages of B. burgdorferi, it has been used in an ELISA diagnostic test for early IgM of Lyme Disease.