ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Borrelia burgdorferi Osp-C protein (OspC)

☐ **Cat.** # OSPC12-C Recombinant Borrelia burgdorferi Osp-C protein (OSP-C) control for Western blot **SIZE**:100 ul

☐ **Cat.** # OSPC12-S Rabbit Anti-Borrelia burgdorferi Osp-C protein (OspC) antiserum **SIZE**:100 ul

Lyme disease was first identified in 1975 in Old Lyme, Connecticut, USA. Lyme disease or **Lyme borreliosis** is an infectious disease caused by bacteria of the **Borrelia** type, identified in 1981 by Willy Burgdorfer. The most common sign of infection is an expanding area of redness, known as erythema migrans, that begins at the site of a tick bite about a week after it has occurred. If untreated, symptoms may include loss of the ability to move one or both sides of the face, joint pains, severe headaches with neck stiffness, or heart palpitations, among others. Lyme disease is transmitted to humans by the bite of infected **ticks of the Ixodes genus** (hard-bodied ticks, Ixodes scapularis in USA; Ixodes ricinus in Europe).



B. burgdorferi is a highly specialized, motile, two-membrane, flat-waved spirochete, ranging from about 9 to 32 micrometers in length. The outer membrane of B. burgdorferi is composed of various unique **outer surface proteins (Osp**) that have been characterized (OspA through OspF). The Osp proteins are lipoproteins anchored by N-terminally attached fatty acid molecules to the membrane. Osp proteins are presumed to play a role in virulence, transmission, or survival in the tick. **OspA** (257, aa, ~31-kda) and **OspB** (~34-kda) are the major outer membrane proteins of B. burgdorferi and show a high degree of sequence similarity. **OspC** is a strong antigen and stimulates an immune response in the host. ospC proteins (~207-aa), among different strains of Borrelia, is highly variable (60-80%). When the tick feeds, the Borrelia downregulates OspA and upregulates OspC. After the bacteria migrate from the midgut to the salivary glands Successful infection of the mammalian host depends on bacterial expression of OspC.

Source of Antigen and Antibodies

Antigen	Recombinant (E.coli) Borrelia burgdorferi OspC protein (19-210aa, protein accession Q07337.1#~28.7 kda)
Ab Host/type	Rabbit, Polyclonal antiserum (Cat# OSPC12-S). Supplied in 0.01% Sodium Azide as preservative
2-Ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates)
-ve control IgG	Cat# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Cat# OSPC12-C, positive control

Borrelia burgdorferi Osp-C protein was expressed in E.coli as his-tag fusion protein (full length, >95%, ~28.7 KDa). Purified glycoprotein for Western blot +ve control (Cat# OSPC12-C) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of # OSPC12-C for good visibility with antibody Cat # OSPC12-S. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should be re dissolved by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the # OSPC12-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Form & Storage of Antibodies

Antiserum

☐ 100 ul ☐ solution ☐ lyophilized powder

Buffer: PBS+0.01% azide

Reconstitute powder 100 ul of PBS.

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at –20ºC or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder.

Specificity & Cross-reactivity

Outer surface proteins (OspC) antigenic protein is conserved in various Borrelia genotypes.

General References: Shapiro, ED (2014). The New England Journal of Medicine. 370 (18): 1724–31; Aucott JN (2015). Infectious Disease Clinics of North America. 29 (2): 309–23; Pritt, BS (2016). The Lancet. Infectious diseases. 16: 556–564.

**This product is for in vitro research use only.*

Related material available from ADI

Catalog# Description
BBA11-S Sheep Anti-Borrelia burgdorferi (whole antigens) antiserum
BBA12-A Rabbit Anti-Borrelia burgdorferi (whole antigens) IgG
BBA13-M Mouse Monoclonal Anti-Borrelia burgdorferi sensu strict IgG, aff pure
BBA15-N-100 Borrelia burgdorferi extracts (B31/whole antigens) for ELISA
OSPA11-M Mouse Monoclonal Anti-Borrelia burgdorferi Osp-A protein (OspA) IgG, aff pure
OSPA12-A Rabbit Anti-Borrelia burgdorferi Osp-A protein (OspA) IgG, aff pure
OSPA12-C Recombinant Borrelia burgdorferi Osp-A protein (OSP-A) control for Western blot
OSPA13-S Rabbit Anti-Borrelia burgdorferi Osp-A protein (OspA) antiserum
OSPA55-R-10 Recombinant (E. coli) Borrelia burgdorferi Osp-A protein (OSP-A, 95%, His-tag) for ELISA
OSPC11-A Rabbit Anti-Borrelia burgdorferi Osp-C protein (OspC) IgG, aff pure
OSPC12-C Recombinant Borrelia burgdorferi Osp-C protein (OSP-C) control for Western blot
OSPC12-S Rabbit Anti-Borrelia burgdorferi Osp-C protein (OspC) antiserum
OSPC65-R-10 Recombinant (E. coli) Borrelia burgdorferi OspC protein (Osp-C, 95%, His-tag) for ELISA

OSPC12-S-Rb-anti-Borreia-ospc-antiserum 250930 170523SV

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