IMMBIOMED

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Monoclonal antibody against complement regulator-acquiring protein (HcpA) *Borrelia recurrentis* [Br-1]

Product No. ADG0161L

Description

Borrelia recurrentis, the causal agent of louse-borne relapsing fever is transmitted to humans via infected body lice. Infection with *B. recurrentis* has been achieved only in humans and is accompanied by a systemic inflammatory disease, multiple relapses of fever and massive spirochetemia. A key virulence factor of *B. recurrentis* is their potential to undergo antigenic variation. In addition, *B. recurrentis* express a surface lipoprotein, termed HcpA, which by exploiting host proteins factor H, CFHR-1, and plasmin(ogen) confers resistance to both, complement attack and opsonization and simultaneously acquires an increased potential to invade host tissues.

Properties

The monoclonal antibody ADG0161L (**Br-1**) is a murine monoclonal antibody, subclass IgG_1 recognizing HcpA of *Borrelia recurrentis* strain A1. Mice were immunized with rec. HcpA. The antibody has been purified from cell culture supernatant using Protein G affinity chromatography.

Presentation

Vial containing 1 mg purified antibody in PBS pH 7.4. The concentration is given on the vial label. Spin the vial briefly before opening.

Storage and Stability

Store the antibody at 2°-8°C. For long-term storage the antibody should be aliquoted and stored at –20°C or colder. It is recommended to avoid freeze-thaw cycles.

Applications

A. ELISA

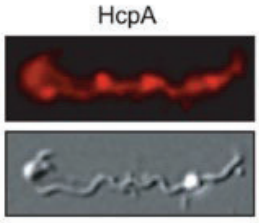
The antibody can be used as capture antibody in ELISAs. An antibody concentration of 1-10 µg/ml is recommended.

B. Immunocytochemistry

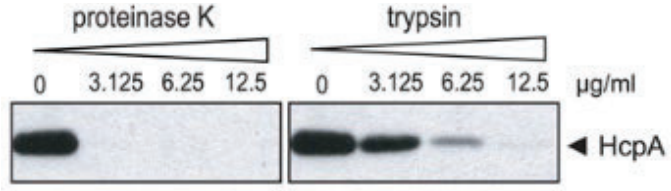
The antibody can be used for immune-cytochemistry on paraformaldehyde fixed spirochetes.

C. Westernblot

The antibody is suitable for Western blot analysis, detecting native and recombinant HcpA following SDS-PAGE under reducing conditions. A primary antibody concentration of 1-10 µg/mL is recommended.



Surface localization of HcpA. Immunofluorescence analysis of *B. recurrentis* A1after incubation mAb Br-1 followed by rabbit anti-mouse Cy3-conjugated IgG. Corresponding differential interference contrast image is shown in the lower panel



Proteinase K and trypsin treatment affects surface expression of native HcpA. *B. recurrentis* cells were incubated with the indicated concentrations of proteinase K and trypsin, lysed, immunoblotted, and probed with anti-HcpAA mAb Br-1.

References

1. *Borrelia recurrentis* employs a novel multifunctional surface protein with anti-complement, anti-opsonic and invasive potential to escape innate immunity. Grosskinsky et al. *PloS One*. 2009; 4(3):e4858

2. Human complement regulators C4b-binding protein and C1 esterase inhibitor interact with a novel outer surface protein of *Borrelia recurrentis*. Grosskinsky et al. *PLoS Negl. Trop. Dis*. 2011; 4(6):e698

3. Immune evasion strategies of relapsing fever spirochetes. Rötterding and Kraiczy. *Front. Immunol.* 2020; 11:1560

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