

Product datasheet

Anti-CD46 antibody [169-1-E4.3] - BSA and Azide free ab212599

Overview

Product name	Anti-CD46 antibody [169-1-E4.3] - BSA and Azide free
Description	Mouse monoclonal [169-1-E4.3] to CD46 - BSA and Azide free
Host species	Mouse
Tested applications	Suitable for: Flow Cyt, ICC/IF
Species reactivity	Reacts with: Human, Baboon Does not react with: Horse
Immunogen	Tissue, cells or virus corresponding to Human CD46. (Stimulated human leukocytes) Database link: P15529
Positive control	K562, U937, HL60, HeLa and Jurkat cells, and Human lymphocytes. Lymph node and tonsil.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Constituent: 100% PBS
Carrier free	Yes
Purity	Protein A/G purified
Purification notes	ab212599 is purified from Bioreactor Concentrate by Protein A/G.
Clonality	Monoclonal
Clone number	169-1-E4.3
Isotype	IgG2a
Light chain type	kappa

Applications

Our [Abpromise guarantee](#) covers the use of **ab212599** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		Use 0.5-1µg for 10 ⁶ cells. in 0.1ml
ICC/IF		Use a concentration of 0.5 - 1 µg/ml.

Target

Function

Acts as a cofactor for complement factor I, a serine protease which protects autologous cells against complement-mediated injury by cleaving C3b and C4b deposited on host tissue. May be involved in the fusion of the spermatozoa with the oocyte during fertilization. Also acts as a costimulatory factor for T-cells which induces the differentiation of CD4+ into T-regulatory 1 cells. T-regulatory 1 cells suppress immune responses by secreting interleukin-10, and therefore are thought to prevent autoimmunity. A number of viral and bacterial pathogens seem to exploit this property and directly induce an immunosuppressive phenotype in T-cells by binding to CD46.

Tissue specificity

Expressed by all cells except erythrocytes.

Involvement in disease

Defects in CD46 are a cause of susceptibility to hemolytic uremic syndrome atypical type 2 (AHUS2) [MIM:612922]. An atypical form of hemolytic uremic syndrome. It is a complex genetic disease characterized by microangiopathic hemolytic anemia, thrombocytopenia, renal failure and absence of episodes of enterocolitis and diarrhea. In contrast to typical hemolytic uremic syndrome, atypical forms have a poorer prognosis, with higher death rates and frequent progression to end-stage renal disease. Note=Susceptibility to the development of atypical hemolytic uremic syndrome can be conferred by mutations in various components of or regulatory factors in the complement cascade system. Other genes may play a role in modifying the phenotype. Patients with CD46 mutations seem to have an overall better prognosis compared to patients carrying CFH mutations.

Sequence similarities

Contains 4 Sushi (CCP/SCR) domains.

Domain

Sushi domains 1 and 2 are required for interaction with human adenovirus B PV/FIBER protein and with Measles virus H protein. Sushi domains 2 and 3 are required for Herpesvirus 6 binding. Sushi domain 3 is required for Neisseria binding. Sushi domains 3 and 4 are required for interaction with Streptococcus pyogenes M protein and are the most important for interaction with C3b and C4b.

Post-translational modifications

N-glycosylated on Asn-83; Asn-114 and Asn-273 in most tissues, but probably less N-glycosylated in testis. N-glycosylation on Asn-114 and Asn-273 is required for cytoprotective function. N-glycosylation on Asn-114 is required for Measles virus binding. N-glycosylation on Asn-273 is required for Neisseria binding. N-glycosylation is not required for human adenovirus binding.

Extensively O-glycosylated in the Ser/Thr-rich domain. O-glycosylation is required for Neisseria binding but not for Measles virus or human adenovirus binding.

In epithelial cells, isoforms B/D/F/H/J/L/3 are phosphorylated by YES1 in response to infection by Neisseria gonorrhoeae; which promotes infectivity. In T-cells, these isoforms may be phosphorylated by Lck.

Cellular localization

Cytoplasmic vesicle > secretory vesicle > acrosome inner membrane. Inner acrosomal membrane of spermatozoa. Internalized upon binding of Measles virus, Herpesvirus 6 or Neisseria gonorrhoeae, which results in an increased susceptibility of infected cells to complement-mediated injury. In cancer cells or cells infected by Neisseria, shedding leads to a

soluble peptide.

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