abcam

Product datasheet

HRP Anti-CD46 antibody [EPR4014] ab196863

KO VALIDATED Recombinant RabMAb

3 Images

Overview

Product name	HRP Anti-CD46 antibody [EPR4014]
Description	HRP Rabbit monoclonal [EPR4014] to CD46
Host species	Rabbit
Conjugation	HRP
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HeLa whole cell lysate.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

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. Avoid freeze / thaw cycle. Store In the Dark.
Storage buffer	pH: 7.40 Preservative: 0.1% Proclin 300 Solution Constituents: 30% Glycerol (glycerin, glycerine), 1% BSA, PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR4014
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab196863 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
WB		1/1000. Detects a band of approximately 52 kDa (predicted molecular weight: 44 kDa).

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.

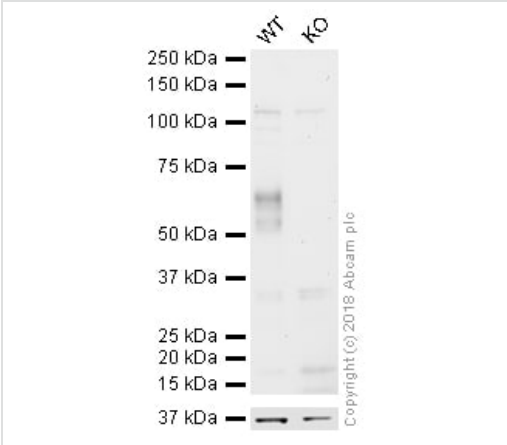
Sequence similarities Contains 4 Sushi (CCP/SCR) domains.

Domain Sushi domains 1 and 2 are required for interaction with human adenovirus B PIV/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.

Images



Western blot - HRP Anti-CD46 antibody [EPR4014] (ab196863)

All lanes : Anti-NDUFS3 antibody [EPR12782] - C-terminal (Alexa Fluor® 647) (**ab196864**) at 1/1000 dilution

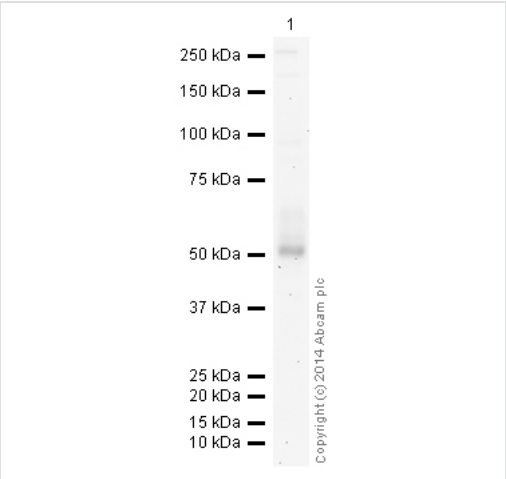
Lane 1 : Wild-type HAP1 whole cell lysate
Lane 2 : CD46 knockout HAP1 whole cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 44 kDa

Exposure time: 20 minutes

ab196863 was shown to recognize CD46 in wild-type HAP1 cells as signal was lost at the expected MW in CD46 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and CD46 knockout samples were subjected to SDS-PAGE. Ab196863 and **ab184095** (Mouse monoclonal [mAbcam 9484] to GAPDH - Loading Control (Alexa Fluor® 680) loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/1000 dilution respectively. The loading control was imaged using the Licor Odyssey CLx prior to blots being developed with ECL technique.



Western blot - HRP Anti-CD46 antibody [EPR4014] (ab196863)

HRP Anti-CD46 antibody [EPR4014] (ab196863) at 1/1000 dilution + HeLa whole cell lysate (**ab150035**) at 10 µg

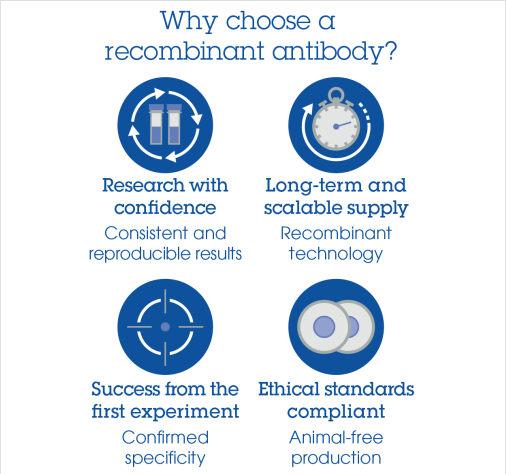
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 44 kDa
Observed band size: 52 kDa

Exposure time: 20 minutes

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 2% Bovine Serum Albumin before being incubated with ab196863 overnight at 4°C. Antibody binding was visualised using ECL development solution **ab133406**.



HRP Anti-CD46 antibody [EPR4014] (ab196863)

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