abcam

Product datasheet

Anti-CD46 antibody [EPR23242-171] - BSA and Azide free ab273588

KO VALIDATED Recombinant RabMAb

4 Images

Overview

Product name	Anti-CD46 antibody [EPR23242-171] - BSA and Azide free
Description	Rabbit monoclonal [EPR23242-171] to CD46 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** IHC-P, Flow Cyt, ICC/IF **Unsuitable for:** IP or WB
Species reactivity	**Reacts with:** Human
Immunogen	Recombinant fragment within Human CD46 aa 1-300. The exact sequence is proprietary. Database link: P15529
Positive control	IHC-P: Human prostatic hyperplasia and kidney tissue. ICC/IF: Wild-type HAP1 cells. Flow Cyt: Wild-type HAP1 cells.
General notes	ab273588 is the carrier-free version of ab273583. This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes. Our carrier-free formats are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency. Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm. *Maxpar® is a trademark of Fluidigm Canada Inc.* 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. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR23242-171
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab273588** 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
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
Flow Cyt		Use at an assay dependent concentration.
ICC/IF		Use at an assay dependent concentration.

Application notes Is unsuitable for IP or WB.

Target

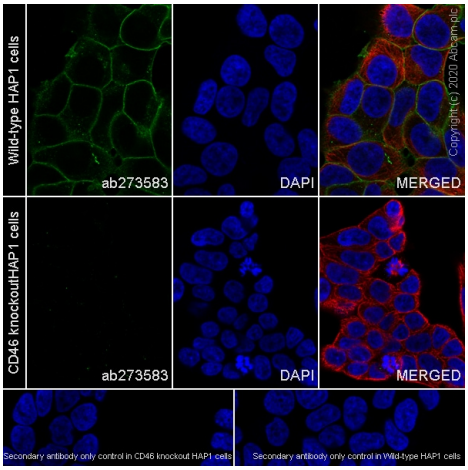
Function Acts as a cofactor for complement factor I, a serine protease which protects autologous cells against complement-mediated injury by cleaving C3b and C4b deposited on host tissue. May be involved in the fusion of the spermatozoa with the oocyte during fertilization. Also acts as a costimulatory 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

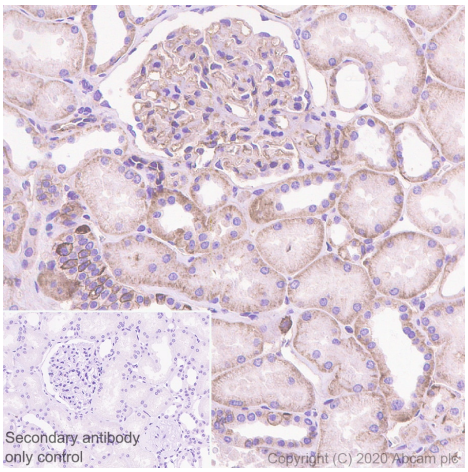


Immunocytochemistry/ Immunofluorescence - Anti-CD46 antibody [EPR23242-171] - BSA and Azide free (ab273588)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized CD46 KO HAP1 cells labelling CD46 with ab273583 at 1/250 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing strong membranous and weak cytoplasmic staining in wild-type HAP1 cells, and no staining in CD46 knockout HAP1 cells. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab273583).



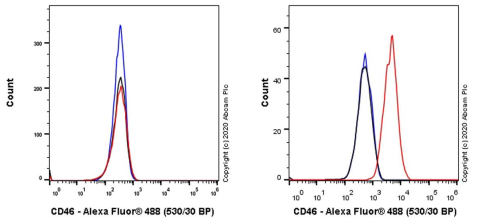
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD46 antibody [EPR23242-171] - BSA and Azide free (ab273588)

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling CD46 with ab273583 at 1/100 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous and cytoplasmic staining on human kidney (PMID: 30185663). The section was incubated with ab273583 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab273583).



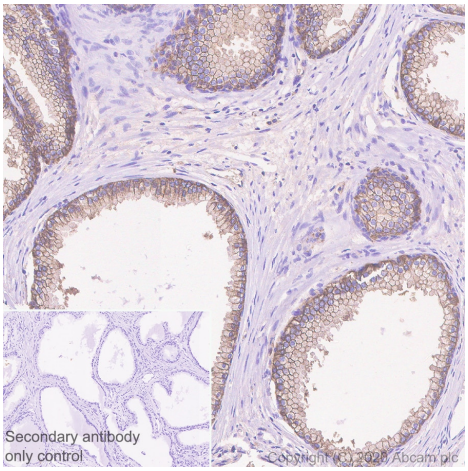
Flow Cytometry - Anti-CD46 antibody [EPR23242-171] - BSA and Azide free (ab273588)

Flow cytometric analysis of parental HAP1 (Wildtype control Human chronic myelogenous leukemia near-haploid cell line, Right) / CD46 KO HAP1 (Left) cells labelling CD46 with ab273583 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

Gated on viable cells.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab273583).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD46 antibody [EPR23242-171] - BSA and Azide free (ab273588)

Immunohistochemical analysis of paraffin-embedded Human prostatic hyperplasia tissue labeling CD46 with ab273583 at 1/100 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous and cytoplasmic staining on human prostatic hyperplasia (PMID: 30185663). The section was incubated with ab273583 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab273583).

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