abcam

ab34016

Anti-CD147 antibody [OX114]

Key facts

Isotype	IgG1
Host species	Rat
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Protein within Mouse Bsg. The exact immunogen used to generate this antibody is proprietary information. Database link P18572
Clone number	OX114
Purification technique	Affinity purification Protein G
Epitope	The antibody binds to a region between domains 1 and 2 (aa 37-219) of mouse CD147.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab34016 was purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	1/25 - 1/50

Notes	Use 10µl of the suggested working dilution to label 1 x 106 cells. Note that for staining of whole blood samples increased amounts of antibody may be required due to the presence of CD147 on erythrocytes. ab18407 - Rat monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information BSG

Function	Isoform 1. Essential for normal retinal maturation and development (By similarity). Acts as a retinal cell surface receptor for NXNL1 and plays an important role in NXNL1-mediated survival of retinal cone photoreceptors (PubMed:25957687). In association with glucose transporter SLC16A1/GLUT1 and NXNL1, promotes retinal cone survival by enhancing aerobic glycolysis and accelerating the entry of glucose into photoreceptors (PubMed:25957687). May act as a potent stimulator of IL6 secretion in multiple cell lines that include monocytes (PubMed:21620857). Isoform 1. (Microbial infection) Erythrocyte receptor for P.falciparum RH5 which is essential for erythrocyte invasion by the merozoite stage of P.falciparum isolates 3D7 and Dd2. Isoform 2. Signaling receptor for cyclophilins, essential for PPIA/CYPA and PPIB/CYPB-dependent signaling related to chemotaxis and adhesion of immune cells (PubMed:11688976, PubMed:11943775). Plays an

important role in targeting monocarboxylate transporters SLC16A1/GLUT1, SLC16A11 and SLC16A12 to the plasma membrane (PubMed:17127621, PubMed:21778275, PubMed:28666119). Acts as a coreceptor for vascular endothelial growth factor receptor 2 (KDR/VEGFR2) in endothelial cells enhancing its VEGFA-mediated activation and downstream signaling (PubMed:25825981). Promotes angiogenesis through EPAS1/HIF2A-mediated up-regulation of VEGFA (isoform VEGF-165 and VEGF-121) and KDR/VEGFR2 in endothelial cells (PubMed:19837976). Plays a key role in regulating tumor growth, invasion, metastasis and neoangiogenesis by stimulating the production and release of extracellular matrix metalloproteinases and KDR/VEGFR2 by both tumor cells and stromal cells (fibroblasts and endothelial cells) (PubMed:11992541, PubMed:12553375, PubMed:15833850). Isoform 2. (Microbial infection) Erythrocyte receptor for P.falciparum RH5 which is essential for erythrocyte invasion by the merozoite stage of P.falciparum isolates 3D7, Dd2, 7G8 and HB3 (PubMed:22080952, PubMed:26195724). Binding of P.falciparum RH5 results in BSG dimerization which triggers an increase in intracellular Ca(2+) in the erythrocyte (PubMed:28409866). This essential step leads to a rearrangement of the erythrocyte cytoskeleton required for the merozoite invasion (PubMed:28409866). Isoform 2. (Microbial infection) Can facilitate human SARS coronavirus (SARS-CoV-1) infection via its interaction with virus-associated PPIA/CYPA. Isoform 2. (Microbial infection) Can facilitate HIV-1 infection via its interaction with virus-associated PPIA/CYPA. Isoform 2. (Microbial infection) First described as a receptor for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), it is not required for SARS-CoV-2 infection. Isoform 2. (Microbial infection) Acts as a receptor for measles virus. Isoform 2. (Microbial infection) Promotes entry of pentamer-expressing human cytomegalovirus (HCMV) into epithelial and endothelial cells. Plays a role in neurite outgrowth.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD147 also referred to as EMMPRIN or basigin is a transmembrane glycoprotein with a molecular weight of roughly 50–60 kDa. This protein is found on the surface of many cell types including leukocytes platelets and endothelial cells and it plays a critical role in cell function related to immune responses and cellular interactions. CD147 interacts with several cellular components serving mechanical functions such as facilitating cell-to-cell communication and contributing to the stability of cell structures. The protein is ubiquitously expressed but exhibits higher levels in tissues like the brain skin and liver.
Biological function summary	CD147 engages in multiple roles beyond its mechanical functions. It functions as a part of protein complexes and is involved in processes such as regulation of matrix metalloproteinases (MMPs) which are pivotal in tissue remodeling and repair. It can modulate inflammatory responses and is essential for cellular signaling pathways that affect cellular metabolism and growth. The involvement of CD147 in immune responses indicates its importance in various physiological processes.
Pathways	CD147 plays a significant role in the MAPK and NF-kB signaling pathways which are fundamental for controlling inflammatory responses and cell survival. It interacts with proteins such as integrins and cyclophilins which are important for mediating these pathways. These interactions highlight CD147's impact on cellular dynamics and its potential role in modulating the cellular environment in response to external stimuli.
Associated diseases and disorders	CD147 has been implicated in cancer promotion and progression as well as inflammatory diseases like rheumatoid arthritis. Its overexpression is often observed in tumors where it interacts with MMPs to facilitate tumor invasion and metastasis. In inflammatory conditions CD147 can influence the behavior of proteins like cytokines exacerbating symptoms and contributing to disease severity. These associations make CD147 a potential target for therapeutic intervention in cancer and inflammatory diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

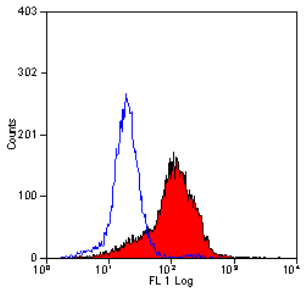
We do not recommend this combination. It is not covered by our product promise.

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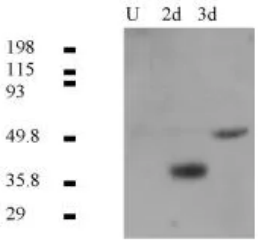
2 product images



Flow Cytometry - Anti-CD147 antibody [OX114] (ab34016)

CD147 Flow Cytometry staining using rat Anti-CD147 antibody

ab34016 staining CD147 in mouse peripheral blood lymphocytes by Flow Cytometric analysis.



Western blot - Anti-CD147 antibody [OX114] (ab34016)

CD147 Western blot staining using rat Anti-CD147 antibody

WB using ab34016.
U: Untransfected HEK-293T cell lysate.

2d: HEK-293T cells transfected with mouse CD147 d1+2 construct.

3d: HEK-293T cells transfected with mouse CD147d0-2 construct.

Data from PMID : 14606962.

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All lanes:
Western blot - Anti-CD147 antibody [OX114] (ab34016)

Predicted band size: 42 kDa

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