CD147 Antibody

PRODUCT OVERVIEW

Product Name	CD147, Antibody
Full Product Name	Anti-CD147 [5F6]
Product Gene Name	anti-CD147 antibody
Product Synonym Names	Basigin; Emmprin; 5F7; Collagenase stimulatory factor; Extracellular matrix metalloproteinase inducer; Hepatoma-associated antigen; HAb18G; Leukocyte activation antigen M6; OK blood group antigen; Tumor cell-derived collagenase stimulatory factor; TCSF;BSG; Cluster of differentiation 147
Isotype	Mouse IgG1 kappa
Clone Number	5F6
Species Reactivity	Human
Form/Format	PBS with 0.02% Proclin 300.
Purity/Purification	Purified. Protein A affinity purified
Concentration	1mg/ml (lot specific)
Specificity	The antibody binds the N domain of CD147. The antibody binds to an epitope on the extracellular domain of CD147 (residues Asp65-Phe74 and Val30-Thr40). CD147 is a type I membrane glycoprotein and is classified into the immunoglobulin-like superfamily, and is expressed in many types of cancer. It is suggested that CD147 is also associated with cancer metastasis, invasion, and chemical drug resistance.
Preparation and Storage	Store at 4 degree C for up to 3 months. For longer storage, aliquot and store at -20 degree C.
Molecular Weight	42,200 Da
Chromosome Location	Chromosome: 19; NC_000019.9 (571277..583493). Location: 19p13.3
OMIM	109480
3D Structure	ModBase 3D Structure for P35613
Animal-free Manufacturing Platform	The recombinant antibody is manufactured using a recombinant, mammalian HEK293-based expression platform. The manufacturing platform is animal-free and animal component-free.
Product Categories/Family for anti-CD147 antibody	Head cancer; Neck cancer; cancer
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-CD147 antibody	Blocking (BL), Crystallization (CRYS), ELISA (EIA), Inhibition (Inhib), in vivo

Application Notes for anti-CD147 antibody	The specificity of the antibody was coonfirmed by competition ELISA. The antibody recognized MDA-MB-231 cells that express native CD147 antigens on tumor cell surface. To assess the ability of the original antibody to block MMP-1 production, NHLF were treated with recombinant a ECD-DYKDDDDK construct and the MMP-1 production in response to CD147 stimulation was determined using the MMP-1 activity assay. The antibody showed significant inhibition of MMP-1 production. The original antibody was screened for the ability to inhibit CD147-induced MMP-2 or MMP-9 production in co-culture. Results showed the antibody inhibited MMP-2 and MMP-9 production in co-culture. The humanized version of the antibody (IgG1) inhibited CD147-stimulated MMP-1 production by fibroblast in a dose-dependent manner and the MMP-2 production by MDA-MB-231 and NHDF in a dose dependent manner. The humanized version of the antibody was able to inhibit VEGF production by normal human lung fibroblasts (NHLF) stimulated with 10 ug/ml recombinant CD147 for 48 hours. The humanized version of the antibody inhibited more than 40% of VEGF production in co-culture of tumor cells and fibroblast cells. The humanized version of the antibody inhibited angiogenesis in vivo. SCID Beige Mice implanted with MDA-MB-231 human breast carcinoma cells were treated with E+5F6(MuIgG2a); the antibody inhibited tumor angiogenesis in Panc-1 matrigel plug model. The antibody showed potential as therapeutic and prophylactic agents (US8618264B2). The structure of the Fab fragment was determined (Teplyakov et al., 2010).
Related Product Information for anti-CD147 antibody	MBS489132 is an antibody targeting CD147. Also known as Anti-CD147 [5F6]. Reactive in Human. The original antibody was generated by immunizing mice with CD147.
Other Notes	Small volumes of anti-CD147 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD147. It may not necessarily be applicable to this product.

NCBI GI #	38372919
NCBI GeneID	682
NCBI Accession #	NP_001719.2
UniProt Primary Accession #	P35613
UniProt Secondary Accession #	Q7Z796; Q8IZL7; A6NJW1; D3YLG5
UniProt Related Accession #	P35613
GenBank Nucleotide #	NM_001728.3
NCBI Official Full Name	basigin isoform 1
NCBI Official Synonym Full Names	basigin (Ok blood group)
NCBI Official Symbol	BSG
NCBI Official Synonym Symbols	M6; OK; 5F7; TCSF; CD147; EMMPRIN
UniProt Protein Name	Basigin
UniProt Synonym Protein Names	5F7; Collagenase stimulatory factor; Extracellular matrix metalloproteinase inducer; EMMPRIN; Leukocyte activation antigen M6; OK blood group antigen; Tumor cell-derived collagenase stimulatory factor
UniProt Gene Name	BSG
UniProt Synonym Gene Names	EMMPRIN; TCSF
UniProt Entry Name	BASI_HUMAN
NCBI Protein Information	basigin; CD147 antigen; OK blood group antigen; collagenase stimulatory factor; leukocyte activation antigen M6; extracellular matrix metalloproteinase inducer; tumor cell-derived collagenase stimulatory factor
NCBI Summary for CD147	The protein encoded by this gene is a plasma membrane protein that is important in spermatogenesis, embryo implantation, neural network formation, and tumor progression. The encoded protein is also a member of the immunoglobulin superfamily. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

UniProt Comments for CD147	BSG: Plays pivotal roles in spermatogenesis, embryo implantation, neural network formation and tumor progression. Stimulates adjacent fibroblasts to produce matrix metalloproteinases (MMPS). May target monocarboxylate transporters SLC16A1, SLC16A3 and SLC16A8 to plasma membranes of retinal pigment epithelium and neural retina. Seems to be a receptor for oligomannosidic glycans. In vitro, promotes outgrowth of astrocytic processes. Enriched on the surface of tumor cells. Up-regulated in gliomas. Its expression levels correlate with malignant potential of the tumor. Forms homooligomers in a cis-dependent manner on the plasma membrane. Forms a complex with MMP1 at the tumor cell surface. Interacts with SLC16A1 and SLC1A3; probably a BSG dimer is associated with a monocarboxylate transporter dimer. Interacts with ATP1B2, MAG and L1CAM. Interacts with AJAP1. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Membrane protein, integral; Immunoglobulin superfamily Chromosomal Location of Human Ortholog: 19p13.3 Cellular Component: Golgi membrane; focal adhesion; membrane; mitochondrion; integral to plasma membrane; melanosome; plasma membrane; sarcolemma; acrosomal membrane; lipid raft Molecular Function: mannose binding; protein binding Biological Process: response to peptide hormone stimulus; extracellular matrix organization and biogenesis; response to cAMP; decidualization; odontogenesis of dentine-containing teeth; response to mercury ion; cellular metabolic process; extracellular matrix disassembly; cell surface receptor linked signal transduction; blood coagulation; pyruvate metabolic process; leukocyte migration; embryo implantation Disease: Blood Group--ok
Research Articles on CD147	**1.** EMMPRIN expression is enhanced in macrophages and smooth muscle cells on unstable coronary artery plaques from acute coronary syndrome patients.
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