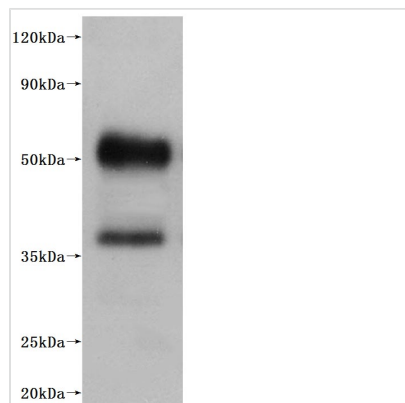


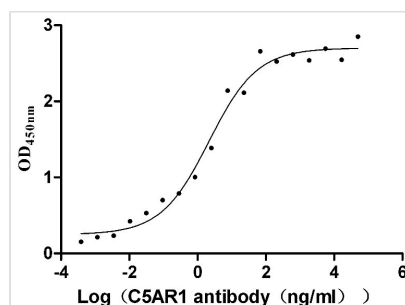


Recombinant Human C5a anaphylatoxin chemotactic receptor 1 (C5AR1)-VLPs (Active)

Product Code	CSB-MP003996HU
Abbreviation	Recombinant Human C5AR1 protein-VLPs (Active)
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P21730
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 µm sterile filtered PBS, 6% Trehalose, pH 7.4
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized human C5AR1 at 10 µg/mL can bind Anti-C5AR1 recombinant antibody (CSB-RA003996A0HU), the EC ₅₀ is 1.239-3.760 ng/mL.
Sequence	MDSFNYYTTPDYGHYDDKDTLDLNTVPDKTSNTLRVPDILALVIFAVVFLVGVLG NALVVWVTAFEAKRTINAIWFLNLAVADFLSCLALPILFTSIVQHHHWPFGGAA CSILPSLILLNMYASILLLATISADRFLLVFKPIWCQNFRGAGLAWIACAVAWGLA LLLTIPSFLYRVVREEYFPPKVLGVDYSHDKRRERAVAIVRLVLGFLWPLLTLT ICYTFILLRTWSRRATRSTKTLKVVVAVVASFFIFWLPHYQVTGIMMSFLEPSSPT FLLKKLDSLCSFAYINCCINPIIYVAGQGFGRLRKSLPSLLRNVLTEESVV RESKSFTRSTVDTMAQKTQAV
Source	Mammalian cell
Target Names	C5AR1
Expression Region	1-350aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 10xHis-tagged (This tag can be tested only under denaturing conditions)
Mol. Weight	41.1 kDa
Protein Length	Full Length
Image	

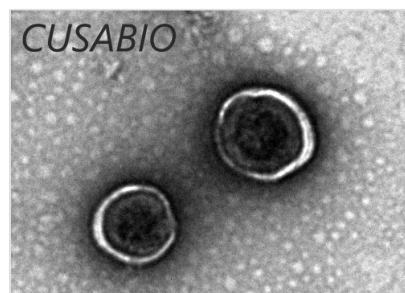


CSB-MP003996HU is detected by Mouse anti-6*His monoclonal antibody.



Activity

Measured by its binding ability in a functional ELISA. Immobilized human C5AR1 at 10 µg/ml can bind Anti-C5AR1 recombinant antibody (CSB-RA003996A0HU), the EC₅₀ is 1.239-3.760 ng/mL.



The presence of VLP-like structures was confirmed by TEM

Description

Clone the gene encoding the human C5a anaphylatoxin chemotactic receptor 1 (C5AR1) protein (1-350aa) fused with the C-terminal 10xHis-tag gene into an expression vector along with the gene for VLP-forming viral capsid proteins. Introduce the recombinant expression vector into mammalian cells cultured under optimal conditions to induce protein expression to form VLPs containing the C5AR1 protein. Lyse the cells to release VLPs and then purify the VLPs through affinity chromatography. The presence of recombinant human C5AR1 VLPs has been confirmed by a transmission electron microscope (TEM). Their activity has been validated through a functional ELISA and their endotoxin content is less than 1.0 EU/ug.

C5aR1, also known as C5a receptor 1, is a protein that acts as a receiver for C5a, a molecule that triggers inflammation. Found in various immune cells, it's a key player in many body processes [1]. C5aR1 spurs conditions like cancer growth, kidney damage, and immune responses by rallying immune cells to the scene [2][3]. In colorectal cancer, it encourages cancer cells to change their behavior, contributing to tumor spread [1]. Interestingly, it seems to have different effects on different parts of the body - while it worsens kidney damage in high blood pressure, it protects the heart under certain conditions [2].



Additionally, C5aR1 seems to fuel processes like energy production in breast cancer and kidney infections caused by certain bacteria [4][5]. It's also involved in immune cell activity in muscle diseases like amyotrophic lateral sclerosis [6].

When C5a activates C5aR1, it sets off signals that attract immune cells and release inflammation-triggering molecules [3][8][9]. This receptor is also linked to how our body responds to inflammation and cancer, helping to create an environment that's not too inflammatory for tumors and allowing cancer cells to escape detection [10]. Moreover, it plays a part in allergic asthma and even influences how certain cells in our body turn into bone cells [11][12]. Despite being initially seen as just a decoy receptor, C5aR1 is now recognized as a crucial player in our health and how diseases progress [13][14].

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Endotoxin

Less than 1.0 EU/ug as determined by LAL method.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.

Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.