PRODUCT INFORMATION

Target	CD5L
Synonyms	AIM;API6;CT-2;hAIM;PRO229;SP-ALPHA;Spalpha
Description	Recombinant human CD5L protein with C-terminal 6×His tag
Delivery	In Stock
Uniprot ID	O43866
Expression Host	HEK293
Tag	C-6×His Tag
Molecular Characterization	CD5L(Ser20-Gly347) 6×His tag
Molecular Weight	The protein has a predicted molecular mass of 36.9 kDa after removal of the signal peptide. The apparent molecular mass of CD5L-His is approximately 35-55 kDa due to glycosylation.
Purity	The purity of the protein is greater than 95% as determined by SDS-PAGE and Coomassie blue staining.
Formulation & Reconstitution	Lyophilized from sterile PBS, pH 7.4. Normally 5 % – 8% trehalose is added as protectants before lyophilization. Please see Certificate of Analysis for specific instructions of reconstitution.
Storage&Shipping	Store at -20°C to -80°C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80°C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.

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Address: Wuhan institute of Biotechnology B7, Biolake No.666 Gaoxin Road, Wuhan, Hubei, China
Telephone: +1 2409940618(USA)
/+86-18062749453(China)
/+86-400-006-0995(China)

Email: info@dimabio.com
Website: www.dimabio.com

Background	Secreted protein that acts as a key regulator of lipid synthesis: mainly expressed by macrophages in lymphoid and inflamed tissues and regulates mechanisms in inflammatory responses, such as infection or atherosclerosis. Able to inhibit lipid droplet size in adipocytes. Following incorporation into mature adipocytes via CD36-mediated endocytosis, associates with cytosolic FASN, inhibiting fatty acid synthase activity and leading to lipolysis, the degradation of triacylglycerols into glycerol and free fatty acids (FFA). CD5L-induced lipolysis occurs with progression of obesity: participates in obesity-associated inflammation following recruitment of inflammatory macrophages into adipose tissues, a cause of insulin resistance and obesity-related metabolic disease. Regulation of intracellular lipids mediated by CD5L has a direct effect on transcription regulation mediated by nuclear receptors ROR-gamma (RORC). Acts as a key regulator of metabolic switch in T-helper Th17 cells. Regulates the expression of pro-inflammatory genes in Th17 cells by altering the lipid content and limiting synthesis of cholesterol ligand of RORC, the master transcription factor of Th17-cell differentiation. CD5L is mainly present in non-pathogenic Th17 cells, where it decreases the content of polyunsaturated fatty acyls (PUFA), affecting two metabolic proteins MSMO1 and CYP51A1, which synthesize ligands of RORC, limiting RORC activity and expression of pro-inflammatory genes. Participates in obesity-associated autoimmunity via its association with IgM, interfering with the binding of IgM to Fcalpha/mu receptor and enhancing the development of long-lived plasma cells that produce high-affinity IgG autoantibodies (By similarity). Also acts as an inhibitor of apoptosis in macrophages: promotes macrophage survival from the apoptotic effects of oxidized lipids in case of atherosclerosis (PubMed:24295828). Involved in early response to microbial infection against various pathogens by acting as a pattern recognition receptor and by promoting autophagy (PubMed:16030018, PubMed:24223991, PubMed:24583716, PubMed:25713983).[UniProtKB/Swiss-Prot Function]
Usage	Research use only
Conjugate	Unconjugated

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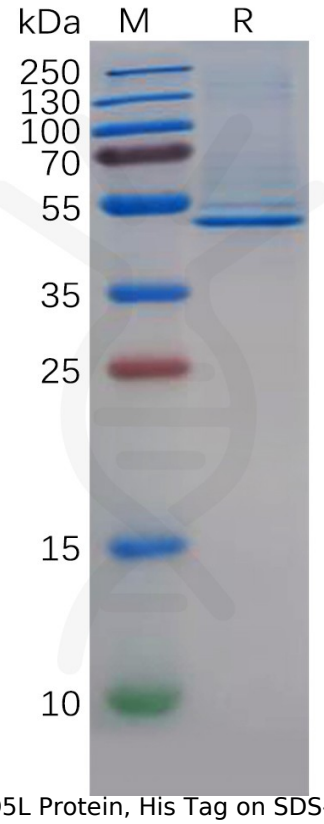


Figure 1. Human CD5L Protein, His Tag on SDS-PAGE under reducing condition.

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