CD5L Protein, Mouse (331a.a, HEK293, His)

Cat. No.:	HY-P72717
Synonyms:	CD5 antigen-like; mAIM; SP-alpha; Cd5l; AIM; API6
Species:	Mouse
Source:	HEK293
Accession:	Q9QWK4 (E22-V352)
Gene ID:	11801
Molecular Weight:	43-55 kDa

PROPERTIES

AA Sequence	E S P T K V Q L V G G A H R C E G R V E V E H N G Q W G T V C D D G W D R R D V A V V C R E L N C G A V I Q T P R G A S Y Q P P A S E Q R V L I Q G V D C N G T E D T L A Q C E L N Y D V F D C S H E E D A G A Q C E N P D S D L L F I P E D V R L V D G P G H C Q G R V E V L H Q S Q W S T V C K A G W N L Q V S K V V C R Q L G C G R A L L T Y G S C N K N T Q G K G P I W M G K M S C S G Q E A N L R S C L L S R L E N N C T H G E D T W M E C E D P F E L K L V G G D T P C S G R L E V L H K G S W G S V C D D N W G E K E D Q V V C K Q L G C G K S L H P S P K T R K I Y G P G A G R I W L D D V N C S G K E Q S L E F C R H R L W G Y H D C T H K E D V E V I C T D F D V
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	CD5L Protein serves as a pivotal regulator of lipid synthesis, predominantly expressed by macrophages in lymphoid and inflamed tissues, orchestrating inflammatory responses in conditions such as infection or atherosclerosis. Its impact extends to adipocytes, where it inhibits lipid droplet size and influences lipolysis following incorporation into mature

adipocytes through CD36-mediated endocytosis. By associating with cytosolic FASN, CD5L suppresses fatty acid synthase activity, resulting in the breakdown of triacylglycerols into glycerol and free fatty acids. In the context of obesity, CD5L-induced lipolysis contributes to inflammation and insulin resistance by recruiting inflammatory macrophages into adipose tissues. Additionally, CD5L exerts regulatory control over metabolic pathways in T-helper Th17 cells, influencing the expression of pro-inflammatory genes by modulating lipid content and limiting the synthesis of cholesterol ligands for RORC, the master transcription factor of Th17-cell differentiation. Notably present in non-pathogenic Th17 cells, CD5L alters polyunsaturated fatty acyl content, affecting metabolic proteins and consequently limiting RORC activity. Moreover, CD5L plays a role in obesity-associated autoimmunity by associating with IgM, interfering with Fcalpha/mu receptor binding, and enhancing the development of long-lived plasma cells producing high-affinity IgG autoantibodies. Beyond its metabolic functions, CD5L acts as an apoptosis inhibitor in macrophages, promoting their survival against the apoptotic effects of oxidized lipids in atherosclerosis. Furthermore, it contributes to the early response to microbial infection, serving as a pattern recognition receptor and promoting autophagy. CD5L's multifaceted roles underscore its significance in diverse physiological processes and its potential implications in various pathological conditions.

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