

Product datasheet for **RC206528**

AIM (CD5L) (NM_005894) Human Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | AIM (CD5L) (NM_005894) Human Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | AIM |
| Synonyms: | AIM; API6; CT-2; hAIM; PRO229; SP-ALPHA; Spalpha |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |
| ORF Nucleotide Sequence: | >RC206528 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s) |

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGCTCTGCTATTCTCCTTGATCCTTGCCATTGACACCAGACCTGGATTCTAGCGTCTCCATCTGGAG
 TCGGGCTGGTGGGGGCTCCACCGCTGTGAAGGGCGGTGGAGGTGGAACAGAAAGGCCAGTGGGGCAC
 CGTGTGTGATGACGGCTGGGACATTAAGGACGTGGCTGTGTTGTCCGGGAGCTGGGCTGTGGAGCTGCC
 AGCGGAACCCCTAGTGGTATTTGTATGAGCCACCAGCAGAAAAAGCAGAAAGGTCCTCATCCAATCAG
 TCAGTTGCACAGGAACAGAAGATACATTGGCTCAGTGTGAGCAAGAAGAAGTTTATGATTGTTACATGA
 TGAAGATGCTGGGCATCGTGTGAGAACCAGAGAGCTCTTTCTCCCACTCCAGAGGGTGTGAGGCTG
 GCTGACGGCCCTGGGCATTGCAAGGGACGCGTGAAGTGAAGCACCAGAACCAAGTGGTATACCGTGTGCC
 AGACAGGCTGGAGCCTCCGGGCCGCAAGGTGGTGTGCCGCGAGCTGGGATGTGGGAGGGCTGTACTGAC
 TCAAAAACGCTGCAACAAGCATGCCTATGGCCGAAAACCATCTGGCTGAGCCAGATGTCATGCTCAGGA
 CGAGAAGCAACCTTCAGGATTGCCCTTCTGGCCTTGGGGGAAGAACACCTGCAACCATGATGAAGACA
 CGTGGGTGCAATGTGAAGATCCCTTTGACTTGAGACTAGTAGGAGGAGACAACCTCTGCTCTGGGCGACT
 GGAGGTGCTGCACAAGGGCGTATGGGGCTCTGTCTGTGATGACAACTGGGGAGAAAAGGAGGACCAGGTG
 GTATGCAAGCAACTGGGCTGTGGGAAGTCCCTCTCCCTCCTTCAGAGACCGGAAATGCTATGGCCCTG
 GGGTTGGCCGCATCTGGCTGGATAATGTTCTGCTCAGGGGAGGAGCAGTCCCTGGAGCAGTGCCAGCA
 CAGATTTTGGGGTTTACGACTGCACCCACCAGGAAGATGTGGCTGTCTGCTCAGGA

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA


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Protein Sequence: >RC206528 protein sequence
 Red=Cloning site Green=Tags(s)

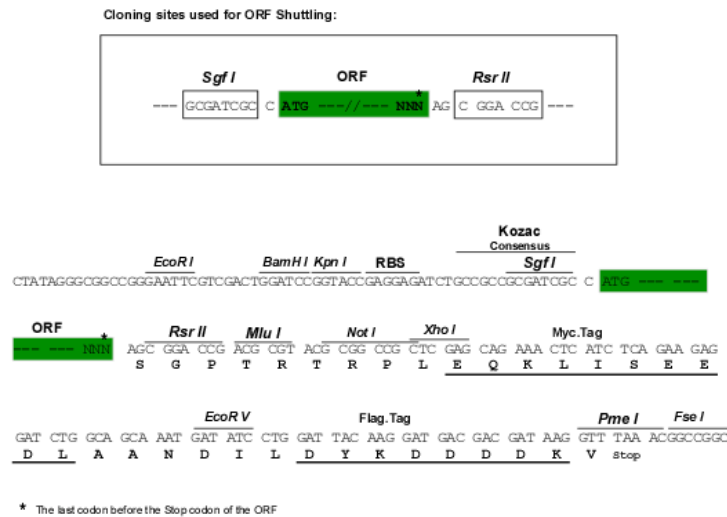
MALLFSLILAICTRPGFLASPSGVRLVGGLHRCEGRVEVEQKGQWGTVCDDGWDIKDVAVLCRELGCGAA
 SGTPSGILYEPPAEKEQKVLIQSVSCTGTEDTLAQCEQEEVYDCSHDEDAGASCENPESSFSPVPEGVRL
 ADGPGHCKGRVEVKHQWYTVCTGTGWSLRAAKVVCRLGCGRAVLTQKRCNKHAYGRKPIWLSQMSCSG
 REATLQDCPSGPWGKNTCNHDEDTWVECEDPFDLRLVGGDNLCSGRLEVLHKGWVGSVCDDNWGEKEDQV
 VCKQLGCCGKSLSPSFRDRKCYGPGVGRIWLDNVRCSGEEQSLEQCQHRFWGFHDCTHQEDVAVICSG

SGPTRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6186_a05.zip

Restriction Sites: SgfI-RsrII

Cloning Scheme:



ACCN: NM_005894

ORF Size: 1041 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

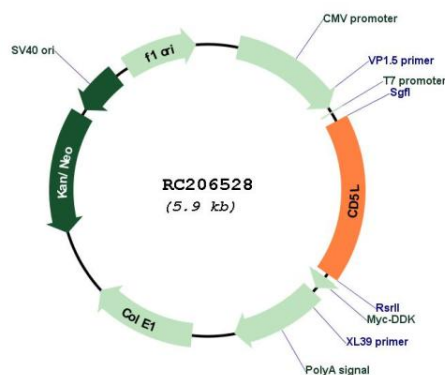
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

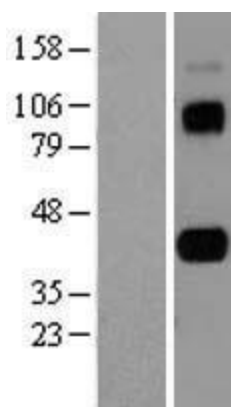
| | |
|-------------------------------|---|
| Reconstitution Method: | <ol style="list-style-type: none"> 1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C. |
| Note: | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required. |
| RefSeq: | <u>NM_005894.3</u> |
| RefSeq Size: | 2248 bp |
| RefSeq ORF: | 1044 bp |
| Locus ID: | 922 |
| UniProt ID: | <u>O43866</u> |
| Cytogenetics: | 1q23.1 |
| Domains: | SR |
| Protein Families: | Druggable Genome, Secreted Protein |
| MW: | 38.1 kDa |

Gene Summary:

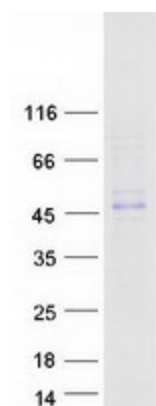
Secreted protein that acts as a key regulator of lipid synthesis: mainly expressed by macrophages in lymphoid and inflamed tissues and regulates mechanisms in inflammatory responses, such as infection or atherosclerosis. Able to inhibit lipid droplet size in adipocytes. Following incorporation into mature 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 Fc α /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]

Product images:


Circular map for RC206528



Western blot validation of overexpression lysate (Cat# [LY401793]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC206528 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CD5L protein (Cat# [TP306528]). The protein was produced from HEK293T cells transfected with CD5L cDNA clone (Cat# RC206528) using MegaTran 2.0 (Cat# [TT210002]).