

Product datasheet for RC203143

Cathepsin L (CTSL) (NM_001912) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cathepsin L (CTSL) (NM_001912) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Cathepsin L
Synonyms:	CATL; CTSL1; MEP
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC203143 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGAATCCTACACTCATCCTTGCTGCCTTTTGCCTGGGAATTGCCTCAGCTACTCTAACATTTGATCACA
GTTTAGAGGCACAGTGGACCAAGTGAAGGCGATGCACAACAGATTATACGGCATGAATGAAGAAGGATG
GAGGAGAGCAGTGTGGGAGAAGAACGTGAAGATGATTGAAGTGCACAATCAGGAATACAGGGAAGGGAAA
CACAGCTTCACAATGGCCATGAACGCCTTTGGAGACATGACCAGTGAAGAATTACAGGCAGGTGATGAATG
GCTTTCAAACCGTAAGCCAGGAAGGGGAAAGTGTCCAGGAACCTCTGTTTATGAGGCCCCAGATC
TGTGGATTGGAGAGAGAAAGGCTACGTGACTCCTGTGAAGAATCAGGGTCAGTGTGGTTCTTGTGGGCT
TTAGTGTACTGGTGTCTTGAAGGACAGATGTTCCGGAAGTGGGAGGCTTATCTCACTGAGTGAGC
AGAATCTGGTAGACTGCTCTGGGCCTCAAGGCAATGAAGGCTGCAATGGTGGCCTAATGGATTATGCTTT
CCAGTATGTTCAAGATAATGGAGGCCTGGACTCTGAGGAATCCTATCCATATGAGGCAACAGAAGAATCC
TGTAAGTACAATCCCAAGTATTCTGTTGCTAATGACACCGGCTTTGTGGACATCCCTAAGCAGGAGAAGG
CCCTGATGAAGGCAGTTGCAACTGTGGGGCCATTCTGTTGCTATTGATGCAGGTCATGAGTCCTTCCT
GTTCTATAAAGAAGGCATTTATTTGAGCCAGACTGTAGCAGTGAAGACATGGATCATGGTGTCTGGTG
GTTGGCTACGGATTTGAAAGCACAGAATCAGATAACAATAAATATTGGCTGGTGAAGAACAGCTGGGGTG
AAGAATGGGGCATGGGTGGCTACGTAAAGATGGCCAAAGACCGGAGAAACCATTGTGGAATTGCCTCAGC
AGCCAGCTACCCCACTGTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA


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Protein Sequence: >RC203143 protein sequence
 Red=Cloning site Green=Tags(s)

MNPTLILAAFLGLIASATLTFDHSLEAQWTKWKAMHNRLYGMNEEGWRRRAVWEKNVKMIELHNQEYREGK
 HSFTMAMNAFGDMTSEEFQVMNGFQNRKPRKGKVFQEPLFYEA PRSVDWREKGYVTPVKNQGCGSCWA
 FSATGALEGQMFRTKTRLISLSEQLVDCSGPQGNCGGLMDYAFQYVQDNGGLDSEESYPYEATEES
 CKYNPKYSVANDTGFVDIPKQEKALMKAVATVGPISVAIDAGHESFLFYKEGIIYFEPDCSSEMDHGVLV
 VGYGFESTESDNNKYWLKNSWGEEWGMGGYVKMAKDRRNHCGIASAASYPTV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6154_g05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001912

ORF Size: 999 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:

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: [NM_001912.5](#)

RefSeq Size: 1730 bp

RefSeq ORF: 1002 bp

Locus ID: 1514

UniProt ID: [P07711](#)

Cytogenetics: 9q21.33

Domains: Pept_C1

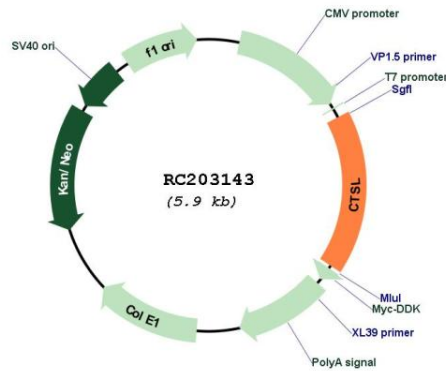
Protein Families: Druggable Genome, Protease

Protein Pathways: Antigen processing and presentation, Lysosome

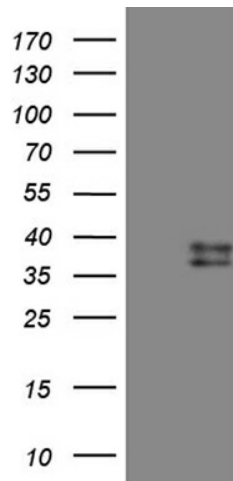
MW: 37.5 kDa

Gene Summary: The protein encoded by this gene is a lysosomal cysteine proteinase that plays a major role in intracellular protein catabolism. Its substrates include collagen and elastin, as well as alpha-1 protease inhibitor, a major controlling element of neutrophil elastase activity. The encoded protein has been implicated in several pathologic processes, including myofibril necrosis in myopathies and in myocardial ischemia, and in the renal tubular response to proteinuria. This protein, which is a member of the peptidase C1 family, is a dimer composed of disulfide-linked heavy and light chains, both produced from a single protein precursor. Additionally, this protein cleaves the S1 subunit of the SARS-CoV-2 spike protein, which is necessary for entry of the virus into the cell. [provided by RefSeq, Aug 2020]

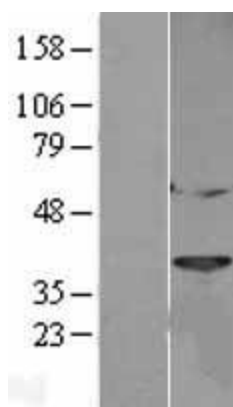
Product images:



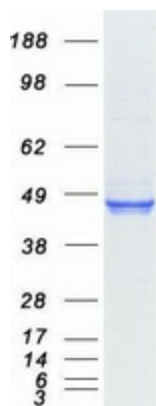
Circular map for RC203143



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CTSL1 (Cat# RC203143, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-CTSL1 (Cat# [TA809346])(1:500). Positive lysates [LY400711] (100ug) and [LC400711] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400711]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203143 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CTSL protein (Cat# [TP303143]). The protein was produced from HEK293T cells transfected with CTSL cDNA clone (Cat# RC203143) using MegaTran 2.0 (Cat# [TT210002]).