

Product datasheet for RC223541

Cathepsin L (CTSL) (NM_145918) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Cathepsin L (CTSL) (NM_145918) 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:	>RC223541 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGAATCCTACACTCATCCTTGCTGCCTTTTGCCTGGGAATTGCCTCAGCTACTCTAACATTTGATCACA
GTTTAGAGGCACAGTGGACCAAGTGAAGGCGATGCACAACAGATTATACGGCATGAATGAAGAAGGATG
GAGGAGAGCAGTGTGGGAGAAGAACGTGAAGATGATTGAACTGCACAATCAGGAATACAGGGAAGGGAAA
CACAGCTTCACAATGGCCATGAACGCCTTTGGAGACATGACCAGTGAAGAATTCAGGCAGGTGATGAATG
GCTTTCAAACCGTAAGCCAGGAAGGGAAAAGTGTCCAGGAACCTCTGTTTTATGAGGCCCCAGATC
TGTGGATTGGAGAGAGAAAGGCTACGTGACTCCTGTGAAGAATCAGGGTCAAGTGTGGTCTTGTGGGCT
TTTAGTGCTACTGGTCTTGAAGGACAGATGTTCCGGAAAACCTGGGAGGCTTATCTCACTGAGTGAGC
AGAATCTGGTAGACTGCTCTGGGCCTCAAGGCAATGAAGGCTGCAATGGTGGCCTAATGGATTATGCTTT
CCAGTATGTTCCAGGATAATGGAGGCCTGGACTCTGAGGAATCCTATCCATATGAGGCAACAGAAGAATCC
TGTAAGTACAATCCCAAGTATTCTGTTGCTAATGACACCGGCTTTGTGGACATCCCTAAGCAGGAGAAGG
CCCTGATGAAGGCAGTTGCAACTGTGGGGCCATTTCTGTTGCTATTGATGCAGGTCATGAGTCTTCTCT
GTTCTATAAAGAAGGCATTTATTTTGGCCAGACTGTAGCAGTGAAGACATGGATCATGGTGTGCTGGTG
GTTGGCTACGGATTTGAAAGCACAGAATCAGATAACAATAAATATTGGCTGGTGAAGAACAGCTGGGGTG
AAGAATGGGGCATGGGTGGCTACGTAAGATGGCCAAAGACCGGAGAAACCATTGTGGAATTCCTCAGC
AGCCAGCTACCCCACTGTG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



[View online »](#)

Protein Sequence: >RC223541 protein sequence
Red=Cloning site Green=Tags(s)

MNPTLILAAFCLGIASATLTFDHSLEAQWTKWKAMHNRLYGMNEEGWRRRAVWEKNVKMIELHNQEYREGK
 HSFTMAMNAFGDMTSEEFROVMNGFQNRKPRKGVFQEPLFYEA PRSVDWREKGYVTPVKNQGCQGCSCWA
 FSATGALEGQMFRTKTRGLISLSEQNLVDCSGPQGNEGCNGGLMDYAFQYVQDNGGLDSEESYPYEATEES
 CKYNPKYSVANDTGFVDIPKQEKALMKAVATVGPISVAIDAGHESFLFYKEGIYFEPDCSSEMDHGVLV
 VGYGFESTESDNNKYWLKNSWGEEWGMGGYVKMAKDRRNHCIGIASAASYPTV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6569_d09.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_145918

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.

RefSeq: [NM_145918.3](#)

RefSeq Size: 1587 bp

RefSeq ORF: 1002 bp

Locus ID: 1514

UniProt ID: [P07711](#)

Cytogenetics: 9q21.33

Domains: Pept_C1

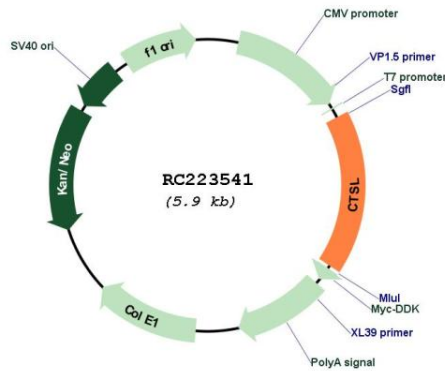
Protein Families: Druggable Genome, Protease

Protein Pathways: Antigen processing and presentation, Lysosome

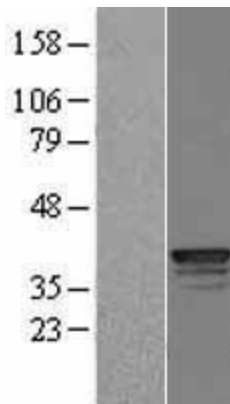
MW: 37.5 kDa

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]

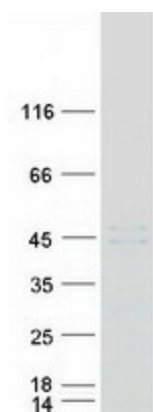
Product images:



Circular map for RC223541



Western blot validation of overexpression lysate (Cat# [LY407805]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC223541 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CTSL protein (Cat# [TP323541]). The protein was produced from HEK293T cells transfected with CTSL cDNA clone (Cat# RC223541) using MegaTran 2.0 (Cat# [TT210002]).