

## Product datasheet for **RG204892**

### Cathepsin K (CTSK) (NM\_000396) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Cathepsin K (CTSK) (NM_000396) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Cathepsin K
Synonyms:	CTS02; CTSO; CTSO1; CTSO2; PKND; PYCD
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG204892 representing NM_000396 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTGGGGGCTCAAGTTCTGCTGCTACCTGTGGTGAGCTTTGCTCTGTACCCTGAGGAGATACTGGACA  
CCCACTGGGAGCTATGGAAGAAGACCCACAGGAAGCAATATAACAACAAGGTGGATGAAATCTCTCGGCG  
TTAATTTGGGAAAAAACCTGAAGTATATTTCCATCCATAACCTTGAGGCTTCTCTGGTGTCCATACA  
TATGAAGTGGCTATGAACCACCTGGGGGACATGACCAGTGAAGAGGTGGTTCAGAAGATGACTGGACTCA  
AAGTACCCTGTCTCATTCCCGCAGTAATGACACCCTTTATATCCAGAATGGGAAGGTAGAGCCCCAGA  
CTCTGTGACTATCGAAAAGAAAGGATATGTTACTCCTGTCAAAAATCAGGGTCAGTGTGGTTCCTGTTGG  
GCTTTTAGCTCTGTGGTGCCCTGGAGGGCCAACCTCAAGAAGAAAACCTGGCAAACCTTAAATCTGAGTC  
CCCAGAACCTAGTGGATTGTGTGTCTGAGAATGATGGCTGTGGAGGGGGCTACATGACCAATGCCTTCCA  
ATATGTGCAGAAGAACCAGGGGATTGACTCTGAAGATGCCTACCCATATGTGGGACAGGAAGAGAGTTGT  
ATGTACAACCCACAGGCAAGGCAGCTAAATGCAGAGGGTACAGAGAGATCCCGAGGGGAATGAGAAAG  
CCCTGAAGAGGGCAGTGGCCGAGTGGGACCTGTCTCTGTGGCCATTGATGCAAGCCTGACCTCCTTCCA  
GTTTTACAGCAAAGGTGTGATTATGATGAAAGCTGCAATAGCGATAATCTGAACCATGCGGTTTTGGCA  
GTGGGATATGGAATCCAGAAGGGAAACAAGCACTGGATAATTAACAGCTGGGAGAAAACCTGGGGAA  
ACAAAGGATATATCCTCATGGCTCGAAAATAAGAACAACGCCTGTGGCATTGCCAACCTGGCCAGCTTCCC  
CAAGATG

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG204892 representing NM\_000396  
Red=Cloning site Green=Tags(s)

MWGLKVL LLPVVSFALYP E E I L D T H W E L W K K T H R K Q Y N N K V D E I S R R L I W E K N L K Y I S I H N L E A S L G V H T  
 Y E L A M N H L G D M T S E E V V Q K M T G L K V P L S H S R S N D T L Y I P E W E G R A P D S V D Y R K K G Y V T P V K N Q G Q C G S C W  
 A F S S V G A L E G Q L K K K T G K L L N L S P Q N L V D C V S E N D G C G G G Y M T N A F Q Y V Q K N R G I D S E D A Y P Y V G Q E E S C  
 M Y N P T G K A A K C R G Y R E I P E G N E K A L K R A V A R V G P V S V A I D A S L T S F Q F Y S K G V Y Y D E S C N S D N L N H A V L A  
 V G Y G I Q K G N K H W I I K N S W G E N W G N K G Y I L M A R N K N N A C G I A N L A S F P K M

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_000396

**ORF Size:** 987 bp

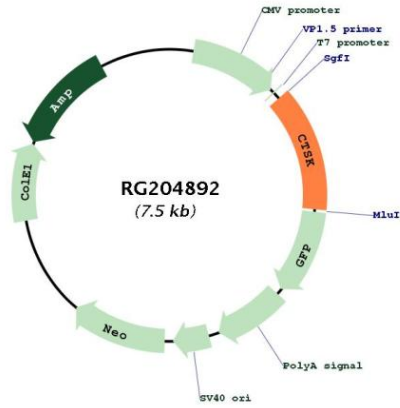
**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u>NM_000396.3</u>
<b>RefSeq Size:</b>	1702 bp
<b>RefSeq ORF:</b>	990 bp
<b>Locus ID:</b>	1513
<b>UniProt ID:</b>	<u>P43235</u>
<b>Cytogenetics:</b>	1q21.3
<b>Domains:</b>	Pept_C1
<b>Protein Families:</b>	Druggable Genome, Protease
<b>Protein Pathways:</b>	Lysosome
<b>Gene Summary:</b>	The protein encoded by this gene is a lysosomal cysteine proteinase involved in bone remodeling and resorption. This protein, which is a member of the peptidase C1 protein family, is predominantly expressed in osteoclasts. However, the encoded protein is also expressed in a significant fraction of human breast cancers, where it could contribute to tumor invasiveness. Mutations in this gene are the cause of pycnodysostosis, an autosomal recessive disease characterized by osteosclerosis and short stature. [provided by RefSeq, Apr 2013]

Product images:



Circular map for RG204892