

## Product datasheet for **RC224156**

### **MMP13 (NM\_002427) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	MMP13 (NM_002427) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	MMP13
Synonyms:	CLG3; MANDP1; MDST; MMP-13
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC224156 representing NM\_002427  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCATCCAGGGTCTGGCTGCCTTCTTCTTCTGAGCTGGACTCATTGTCGGGCCCTGCCCTTCCCA  
 GTGGTGGTGATGAAGATGATTTGTCTGAGGAAGACCTCCAGTTTGCAGAGCGCTACCTGAGATCATACTA  
 CCATCCTACAAATCTCGCGGGAATCCTGAAGGAGAATGCAGCAAGCTCCATGACTGAGAGCTCCGAGAA  
 ATGCAGCTTTTCTCGGCTTAGAGGTGACTGGCAAACCTGACGATAACACCTTAGATGTCATGAAAAAGC  
 CAAGATGCGGGTCTGATGTGGTGAATACAATGTTTTCCCTCGAACTCTAAATGGTCCAAAATGAA  
 TTTAACCTACAGAATTGTGAATTACACCCTGATATGACTCATTCTGAAGTCGAAAAGGCATTCAAAAA  
 GCCTTCAAAGTTTGGTCCGATGTAACCTCTGAATTTACCAGACTTCACGATGGCATTGCTGACATCA  
 TGATCTCTTTGGAATTAAGGAGCATGGCGACTTCTACCATTTGATGGGCCCTCTGGCCTGCTGGCTCA  
 TGCTTTTCTCTGGGCCAAATTATGGAGGAGATGCCATTTTGTGATGATGAAACCTGGACAAGTAGT  
 TCCAAAGGCTACAACCTGTTTCTTGTGCTGCGCATGAGTTCCGGCACTCCTTAGGTCTTGACCCTCCA  
 AGGACCTTGAGCACTCATGTTTCTATCTACACCTACACCGGCAAAAAGCCACTTATGTTCTCTGATGA  
 CGATGTACAAGGGATCCAGTCTCTATGGTCCAGGAGATGAAGACCCCAACCCTAAACATCCAAAAACG  
 CCAGACAAATGTACCCTTCTTATCCCTTGTGATGCCATTACCAGTCTCCGAGGAGAAACAATGATCTTTA  
 AAGACAGATTCTTCTGGCGCTGCATCCTCAGCAGGTTGATGCGGAGCTGTTTTAACGAAATCATTTTG  
 GCCAGAACTTCCCAACCGTATTGATGCTGCATATGAGCACCTTCTCATGACCTCATCTTCATCTTCAGA  
 GGTAGAAAATTTGGGCTCTTAATGGTTATGACATTCTGGAAGGTTATCCAAAAAATATCTGAACTGG  
 GTCTTCCAAAAGAAGTTAAGAAGATAAGTGCAGCTGTTCACTTTGAGGATACAGGCAAGACTCTCCTGTT  
 CTCAGGAAACCAGTCTGGAGATATGATGATACTAACCATATTATGGATAAAGACTATCCGAGACTAATA  
 GAAGAAGACTTCCAGGAATTGGTGATAAAGTAGATGCTGCTATGAGAAAAATGTTATATCTATTTTT  
 TCAACGGACCCATACAGTTGAATACAGCATCTGGAGTAACCGTATTGTTGCGCATGCCAGAAATTC  
 CATTTTGTGGTGT

**ACGGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA**

**Protein Sequence:**

>RC224156 representing NM\_002427  
 Red=Cloning site Green=Tags(s)

MHPGVLAFLFLSWTHCRALPLPSGGEDDLSEEDLQFAERYLRSYYHPTNLAGILKENAASSMTERLRE  
 MQSFFGLEVTGKLDNLTLDVMKKPRCGVPDVGEYNVFPRTLKWSKMNLTYRIVNYTPDMTHSEVEKAFKK  
 AFKVVSDVTPLNFTRLHDGIADIMISFGIKEHGDFYFDGPGSLLAHAFPPGPNYGGDAHFDDEWTSS  
 SKGYNFLVAAHEFGHSLGLDHSKDPGALMFPIYTYTGKSHFMLPDDDVQGIQSLYGPGEDEPNPKHPKT  
 PDKCDPSLSLDAITSLRGETMIFKDRFFWRLHPQQVDAELFLTKSFPELPNRIDAAYEHPSHDLIFR  
 GRKFWALNGYDILEGYPKISELGLPKEVKKISAAVHFEDTGKLLFSGNQVWRYDDTNHIMDKDYPRLI  
 EEDFPGIGDKVDAVYEKNGYIYFNGPIQFEYSIWSNRIVRVMPANSILWC

**TRTRPLEQKLISEEDLAANDILDYKDDDDKV**

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6113\\_d12.zip](https://cdn.origene.com/chromatograms/mk6113_d12.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_002427

**ORF Size:** 1413 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\\_002427.4](#)

**RefSeq Size:** 2722 bp

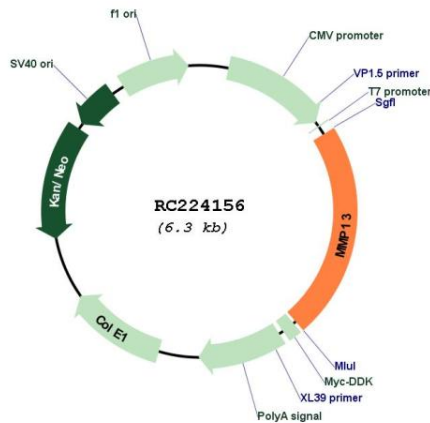
**RefSeq ORF:** 1416 bp

**Locus ID:** 4322

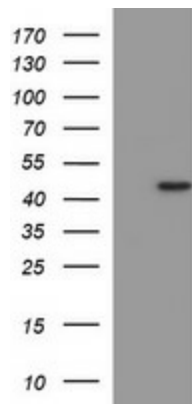
**UniProt ID:** [P45452](#)  
**Cytogenetics:** 11q22.2  
**Protein Families:** Druggable Genome, Protease  
**MW:** 53.82 kDa

**Gene Summary:** This gene encodes a member of the peptidase M10 family of matrix metalloproteinases (MMPs). Proteins in this family are involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis. The encoded preproprotein is proteolytically processed to generate the mature protease. This protease cleaves type II collagen more efficiently than types I and III. It may be involved in articular cartilage turnover and cartilage pathophysiology associated with osteoarthritis. Mutations in this gene are associated with metaphyseal anadysplasia. This gene is part of a cluster of MMP genes on chromosome 11. [provided by RefSeq, Jan 2016]

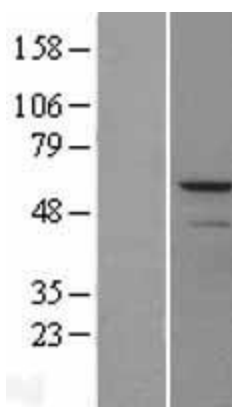
### Product images:



Circular map for RC224156



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MMP13 (Cat# RC224156, 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-MMP13(Cat# [TA506806]). Positive lysates [LY400869] (100ug) and [LC400869] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400869]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC224156 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).