OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for RC208562

Collagen VI (COL6A1) (NM_001848) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Collagen VI (COL6A1) (NM_001848) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Collagen VI
Synonyms:	BTHLM1; OPLL; UCHMD1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC208562 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAGGGCGGCCCGTGCTCTGCTGCCCCTGCTGCTGCAGGCCTGCTGGACAGCCGCGCAGGATGAGCCGG
AGACCCCGAGGGCCGTGGCCTTCCAGGACTGCCCCGTGGACCTGTTCTTTGTGCTGGACACCTCTGAGAG
CGTGGCCCTGAGGCTGAAGCCCTACGGGGCCCTCGTGGACAAAGTCAAGTCCTTCACCAAGCGCTTCATC
GACAACCTGAGGGACAGGTACTACCGCTGTGACCGAAACCTGGTGTGGAACGCAGGCGCGCTGCACTACA
GTGACGAGGTGGAGATCATCCAAGGCCTCACGCGCATGCCTGGCGGCCGCGACGCACTCAAAAGCAGCGT
GGACGCGGTCAAGTACTTTGGGAAGGGCACCTACACCGACTGCGCTATCAAGAAGGGGCTGGAGCAGCTC
CTCGTGGGGGGCTCCCACCTGAAGGAGAATAAGTACCTGATTGTGGTGACCGACGGGCACCCCCTGGAGG
GCTACAAGGAACCCTGTGGGGGGCTGGAGGATGCTGTGAACGAGGCCAAGCACCTGGGCGTCAAAGTCTT
CTCGGTGGCCATCACACCCGACCACCTGGAGCCGCGTCTGAGCATCATCGCCACGGACCACACGTACCGG
CGCAACTTCACGGCGGCTGACTGGGGCCAGAGCCGCGACGCAGAGGAGGCCATCAGCCAGACCATCGACA
CCATCGTGGACATGATCAAAAATAACGTGGAGCAAGTGTGCTGCTCCTTCGAATGCCAGCCTGCAAGAGG
ACCTCCGGGGCTCCGGGGCGACCCCGGCTTTGAGGGAGAACGAGGCAAGCCGGGGCTCCCAGGAGAGAAG
GGAGAAGCCGGAGATCCTGGAAGACCCGGGGACCTCGGACCTGTTGGGTACCAGGGAATGAAGGGAGAAA
AAGGGAGCCGTGGGGAGAAGGGCTCCAGGGGACCCAAGGGCTACAAGGGAGAGAAGGGCAAGCGTGGCAT
CGACGGGGTGGACGGCGTGAAGGGGGAGATGGGGTACCCAGGCCTGCCAGGCTGCAAGGGCTCGCCCGGG
TTTGACGGCATTCAAGGACCCCCTGGCCCCAAGGGAGACCCCGGCGCCTTTGGACTGAAAGGAGAAAAGG
GCGAGCCTGGAGCTGACGGGGAGGCGGGGAGACCAGGGAGCTCGGGACCATCTGGAGACGAGGGCCAGCC
GGGAGAGCCTGGGCCCCCCGGAGAGAAAGGAGAGGCGGGCGACGAGGGGAACCCAGGACCTGACGGTGCC
CCCGGGGAGCGGGGTGGCCCTGGAGAGAGAGGACCACGGGGGACCCCAGGCACACGGGGACCAAGAGGAG
ACCCTGGTGAAGCTGGCCCGCAGGGTGATCAGGGAAGAGAAGGCCCCGTTGGTGTCCCTGGAGACCCGGG
CGAGGCTGGCCCTATCGGACCTAAAGGCTACCGAGGCGATGAGGGTCCCCCAGGGTCCGAGGGTGCCAGA

View online »

GGAGCCCCAGGACCTGCCGGACCCCCTGGAGACCCGGGGCTGATGGGTGAAAGGGGAGAAGACGGCCCCG
CTGGAAATGGCACCGAGGGCTTCCCCGGCTTCCCCGGGTATCCGGGCAACAGGGGCGCTCCCGGGATAAA
CGGCACGAAGGGCTACCCCGGCCTCAAGGGGGACGAGGGAGAAGCCGGGGACCCCGGAGACGATAACAAC
GACATTGCACCCCGAGGAGTCAAAGGAGCAAAGGGGTACCGGGGTCCCGAGGGCCCCCAGGGACCCCCAG
GACACCAAGGACCGCCTGGGCCGGACGAATGCGAGATTTTGGACATCATCATGAAAATGTGCTCTTGCTG
TGAATGCAAGTGCGGCCCCATCGACCTCCTGTTCGTGCTGGACAGCTCAGAGAGCATTGGCCTGCAGAAC
TTCGAGATTGCCAAGGACTTCGTCGTCAAGGTCATCGACCGGCTGAGCCGGGACGAGCTGGTCAAGTTCG
AGCCAGGGCAGTCGTACGCGGGTGTGGTGCAGTACAGCCACAGCCAGATGCAGGAGCACGTGAGCCTGCG
CAGCCCCAGCATCCGGAACGTGCAGGAGCTCAAGGAAGCCATCAAGAGCCTGCAGTGGATGGCGGGCGGC
ACCTTCACGGGGGAGGCCCTGCAGTACACGCGGGACCAGCTGCTGCCGCCCAGCCCGAACAACCGCATCG
CCCTGGTCATCACTGACGGGCGCTCAGACACTCAGAGGGACACCACACCGCTCAACGTGCTCTGCAGCCC
CGGCATCCAGGTGGTCTCCGTGGGCATCAAAGACGTGTTTGACTTCATCCCAGGCTCAGACCAGCTCAAT
GTCATTTCTTGCCAAGGCCTGGCACCATCCCAGGGCCGGCCCGGCCTCTCGCTGGTCAAGGAGAACTATG
CAGAGCTGCTGGAGGATGCCTTCCTGAAGAATGTCACCGCCCAGATCTGCATAGACAAGAAGTGTCCAGA
TTACACCTGCCCCATCACGTTCTCCTCCCCGGCTGACATCACCATCCTGCTGGACGGCTCCGCCAGCGTG
GGCAGCCACAACTTTGACACCACCAAGCGCTTCGCCAAGCGCCTGGCCGAGCGCTTCCTCACAGCGGGCA
GGACGGACCCCGCCCACGACGTGCGGGTGGCGGTGGTGCAGTACAGCGGCACGGGCCAGCAGCGCCCAGA
GCGGGCGTCGCTGCAGTTCCTGCAGAACTACACGGCCCTGGCCAGTGCCGTCGATGCCATGGACTTTATC
AACGACGCCACCGACGTCAACGATGCCCTGGGCTATGTGACCCGCTTCTACCGCGAGGCCTCGTCCGGCG
CTGCCAAGAAGAGGCTGCTGCTCTTCTCAGATGGCAACTCGCAGGGCGCCACGCCCGCTGCCATCGAGAA
GGCCGTGCAGGAAGCCCAGCGGGCAGGCATCGAGATCTTCGTGGTGGTCGTGGGCCGCCAGGTGAATGAG
CCCCACATCCGCGTCCTGGTCACCGGCAAGACGGCCGAGTACGACGTGGCCTACGGCGAGAGCCACCTGT
TCCGTGTCCCCAGCTACCAGGCCCTGCTCCGCGGTGTCTTCCACCAGACAGTCTCCAGGAAGGTGGCGCT
GGGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC208562 protein sequence
Red=Cloning site Green=Tags(s)

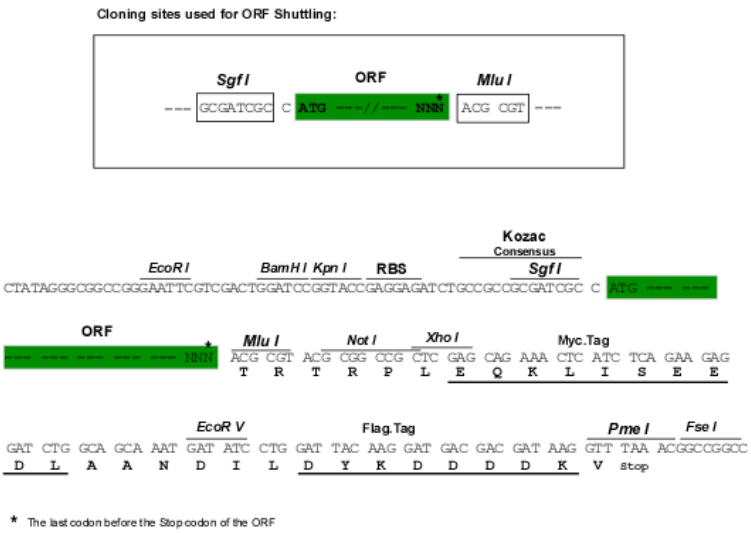
MRAARALLPLLLQACWTAAQDEPETPRAVAFQDCPVDLFFVLDTSESVALRLKPYGALVDKVKSFTKRFI
DNLRDRYYRCDRNLVWNAGALHYSDEVEIIQGLTRMPGGRDALKSSVDAVKYFGKGTYTDCAIKKGLEQL
LVGGSHLKENKYLIVVTDGHPLEGYKEPCGGLEDAVNEAKHLGVKVFSVAITPDHLEPRLSIIATDHTYR
RNFTAADWGQSRDAEEAISQTIDTIVDMIKNNVEQVCCSFECQPARGPPGLRGDPGFEGERGKPGLPGEK
GEAGDPGRPGDLGPVGYQGMKGEKGSRGEKGSRGPKGYKGEKGKRGIDGVDGVKGEMGYPGLPGCKGSPG
FDGIQGPPGPKGDPGAFGLKGEKGEPGADGEAGRPGSSGPSGDEGQPGEPGPPGEKGEAGDEGNPGPDGA
PGERGGPGERGPRGTPGTRGPRGDPGEAGPQGDQGREGPVGVPGDPGEAGPIGPKGYRGDEGPPGSEGAR
GAPGPAGPPGDPGLMGERGEDGPAGNGTEGFPGFPGYPGNRGAPGINGTKGYPGLKGDEGEAGDPGDDNN
DIAPRGVKGAKGYRGPEGPQGPPGHQGPPGPDECEILDIIMKMCSCCECKCGPIDLLFVLDSSESIGLQN
FEIAKDFVVKVIDRLSRDELVKFEPGQSYAGVVQYSHSQMQEHVSLRSPSIRNVQELKEAIKSLQWMAGG
TFTGEALQYTRDQLLPPSPNNRIALVITDGRSDTQRDTTPLNVLCSPGIQVVSVGIKDVFDFIPGSDQLN
VISCQGLAPSQGRPGLSLVKENYAELLEDAFLKNVTAQICIDKKCPDYTCPITFSSPADITILLDGSASV
GSHNFDTTKRFAKRLAERFLTAGRTDPAHDVRVAVVQYSGTGQQRPERASLQFLQNYTALASAVDAMDFI
NDATDVNDALGYVTRFYREASSGAAKKRLLLFSDGNSQGATPAAIEKAVQEAQRAGIEIFVVVVGRQVNE
PHIRVLVTGKTAEYDVAYGESHLFRVPSYQALLRGVFHQTVSRKVALG

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6680_b04.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001848

ORF Size: 3084 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.

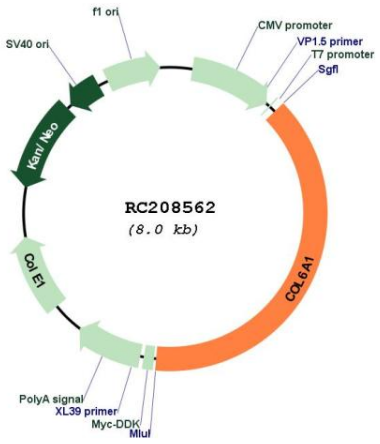
RefSeq: NM_001848.2, NP_001839.2

RefSeq Size: 4246 bp

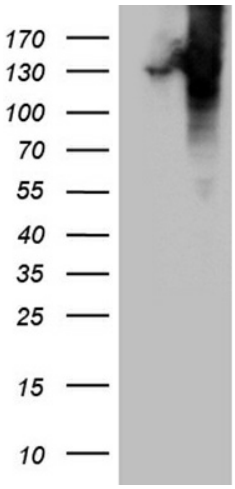
RefSeq ORF: 3087 bp

Locus ID:	1291
UniProt ID:	P12109
Cytogenetics:	21q22.3
Domains:	VWA, Collagen
Protein Pathways:	ECM-receptor interaction, Focal adhesion
MW:	108.5 kDa
Gene Summary:	The collagens are a superfamily of proteins that play a role in maintaining the integrity of various tissues. Collagens are extracellular matrix proteins and have a triple-helical domain as their common structural element. Collagen VI is a major structural component of microfibrils. The basic structural unit of collagen VI is a heterotrimer of the alpha1(VI), alpha2(VI), and alpha3(VI) chains. The alpha2(VI) and alpha3(VI) chains are encoded by the COL6A2 and COL6A3 genes, respectively. The protein encoded by this gene is the alpha 1 subunit of type VI collagen (alpha1(VI) chain). Mutations in the genes that code for the collagen VI subunits result in the autosomal dominant disorder, Bethlem myopathy. [provided by RefSeq, Jul 2008]

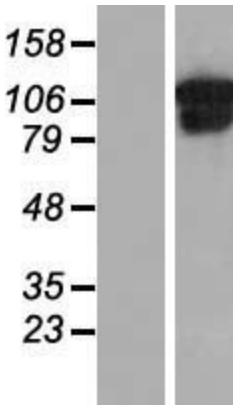
Product images:



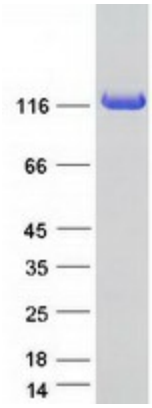
Circular map for RC208562



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY COL6A1 (Cat# RC208562, 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-COL6A1 antibody (Cat# [TA812064]). Positive lysates [LY419706] (100ug) and [LC419706] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419706]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208562 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified COL6A1 protein (Cat# [TP308562]). The protein was produced from HEK293T cells transfected with COL6A1 cDNA clone (Cat# RC208562) using MegaTran 2.0 (Cat# [TT210002]).