

## Product datasheet for **SC126717**

### Collagen I (COL1A2) (NM\_000089) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Collagen I (COL1A2) (NM_000089) Human Untagged Clone
Tag:	Tag Free
Symbol:	Collagen I
Synonyms:	EDSARTH2; EDSCV; OI4
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL6</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC126717 sequence for NM_000089 edited (data generated by NextGen Sequencing)

```

ATGCTCAGCTTTGTGGATACGCGGACTTTGTTGCTGCTTGCAGTAACCTTATGCCTAGCA
ACATGCCAATCTTTACAAGAGGAAACTGTAAGAAAGGGCCAGCCGGAGATAGAGGACCA
CGTGGAGAAAGGGTCCACCAGGCCCCAGGCAGAGATGGTGAAGATGGTCCCACAGGC
CCTCCTGGTCCACCTGGTCTCCTGGCCCCCTGGTCTCGGTGGGAACTTTGCTGCTCAG
TATGATGGAAAAGGAGTTGGACTTGGCCCTGGACCAATGGGCTTAATGGGACCTAGAGGC
CCACCTGGTGCAGCTGGAGCCCCAGGCCCTCAAGGTTTCCAAGGACCTGCTGGTGAAGCCT
GGTGAACCTGGTCAAACCTGGTCTGCAGGTGCTCGTGGTCCAGCTGGCCCTCCTGGCAAG
GCTGGTGAAGATGGTCAACCTGGAAAACCCGGACGACCTGGTGAAGAGAGGAGTTGTTGGA
CCACAGGGTGCTCGTGGTTTCCCTGGAACCTCCTGGACTTCTGGCTTCAAAGGCATTAGG
GGACACAATGGTCTGGATGGATTGAAGGGACAGCCCGGTGCTCCTGGTGTGAAGGGTGA
CCTGGTGGCCCTGGTGAATAAGAACTCCAGGTCAAACAGGAGCCCGTGGGCTTCTGGT
GAGAGAGGACGTGTTGGTGCCCTGGCCAGCTGGTGGCCGTGGCAGTGATGGAAGTGTG
GGTCCCCTGGGTCTGCTGGTCCATTGGGTCTGCTGGCCCTCCAGGCTTCCCAGGTGCC
CCTGGCCCAAGGGTGAATGGAGCTGTTGGTAACGCTGGTCTGCTGGTCCCAGCCGGT
CCCCGTGGTGAAGTGGTCTTCCAGGCCCTCCGGCCCGTTGGACCTCCTGGTAATCCT
GGAGCAAACGGCCTTACTGGTGCCAAGGGTGTGCTGGCCTTCCGGCGTTGCTGGGGCT
CCCGCCTCCCTGGACCCCGGATTCTCGCCCTGTTGGTGTGCGGCTGCTACTGGT
GCCAGAGGACTTGTGGTGAGCCTGGTCCAGCTGGCTCCAAGGAGAGAGCGGTAAACAAG
GGTGAAGCCGGCTGCTGTTGGGCCCAAGTCTCCTGGTCCCAGTGGTGAAGAAGGAAAG
AGAGGCCCTAATGGGGAAGCTGGATCTGCCGGCCCTCCAGGACCTCCTGGGCTGAGAGGT
AGTCTGGTTCTCGTGGTCTTCTGGAGCTGATGGCAGAGCTGGCGTCATGGGCCCTCCT
GGTAGTCGTGGTGAAGTGGCCCTGCTGGAGTCCGAGGACCTAATGGAGATGCTGGTCCG
CCTGGGGAGCCTGGTCTCATGGGACCCAGAGGTCTTCTGGTTCCCCTGGAAATATCGGC
CCCCTGGAAAAGAGGTCTGTGGCCCTCCCTGGCATCGACGGCAGGCCCTGGCCCAATT
GGCCCCCTGGAGCAAGAGGAGAGCCTGGCAACATTGGATTCCCTGGACCCAAAGGCCCC

```



[View online »](#)

```

ACTGGTGATCCTGGCAAAAACGGTGATAAAGGTCATGCTGGTCTTGTGGTGTCTCGGGG
GCTCCAGGTCCTGATGGAACAATGGTGCTCAGGGACCTCTGGACCACAGGGTGTTCAA
GGTGAAAAGGTGAACAGGGTCCCGCTGGTCTCCAGGCTTCCAGGGTCTGCCTGGCCCC
TCAGGTCCCGCTGGTGAAGTTGGCAAACCAGGAGAAAAGGGGTCTCCATGGTGAGTTTGGT
CTCCCTGGTCTGCTGGTCCAAGAGGGGAACGCGGTCCCCAGGTGAGAGTGGTGTGCC
GGTCTACTGGTCTATTGGAAGCCGAGGTCTTCTGGACCCCAGGGCCTGATGAAAAC
AAGGGTGAACCTGGTGTGGTTGGTGTGGGCACTGCTGGTCCATCTGGTCTGCTGGA
CTCCCAGGAGAGAGGGGTGCTGCTGGCATACTGGAGGCAAGGGAGAAAAGGGTGAACCT
GGTCTCAGAGGTGAAATTGGTAACCCTGGCAGAGATGGTCTCGTGGTGTCTCTGGTGT
GTAGGTGCCCTGGTCTGCTGGAGCCACAGGTGACCGGGGCGAAGCTGGGGTCTGCTGGT
CCTGCTGGTCTGCTGGTCTCGGGGAAGCCCTGGTGAACGTGGTGGTGGTGGTGGTGGT
GGCCCCAATGGATTTGCTGGTCTGCTGGTGTGCTGGTCAACCTGGTGTAAAGGAGAA
AGAGGAGCCAAAGGGCTAAGGGTGAACCGTGTGTTGGTCCCACAGGCCCGTTGGA
GCTGCTGGCCAGCTGGTCCAAATGGTCCCCCGGTCTGCTGGAAGTCTGGTGGTGGTGG
GGCCCCCTGGTATGACTGGTTTCCCTGGTGTGCTGGACGGACTGGTCCCCAGGACCC
TCTGGTATTTCTGGCCCTCTGGTCCCCCTGGTCTGCTGGGAAAAGAGGGCTTCTGGT
CCTCGTGGTGACCAAGGTCCAGTTGGCCGAACGGAGAAGTAGGTGCAGTTGGTCCCCCT
GGCTTCGCTGGTGAAGGGTCCCTCTGGAGAGGCTGGTACTGCTGGACCTCTGGCACT
CCAGGTCTCAGGGTCTTCTTGGTGTCTCTGGTATTCTGGGTCTCCCTGGCTCGAGAGGT
GAACGTGGTCTACCAGGTGTTGCTGGTGTGTTGGTGAACCTGGTCTCTTGGCATTGCC
GGCCCTCTGGGGCCCGTGGTCTCTGGTGTGTTGGTGTGTTGGTGTGTTGGTGTGTTGGT
CCTGGTGAAGCTGGTGTGATGGCAACCCTGGGAACGATGGTCCCCAGGTGCGGATGGT
CAACCCGGACACAAGGGAGAGCGCGTTACCTGGCAATATTGGTCCCCTGGTGGTGGTGG
GGTGCACCTGGTCTCATGGCCCGTGGTCTGCTGGCAACATGGAACCGTGGTGGTGG
ACTGGTCTTCTGGTCTGTTGGTCTGCTGGTGTGTTGGCCCAAGAGGTCTAGTGGC
CCACAAGGCATTCTGGCGATAAGGGAGAGCCCGTGAAGGGGGCCAGAGGTCTTCTCT
GGCTTAAAGGGACACAATGGATTGCAAGGTCTGCCTGGTATCGCTGGTACCATGGTGGT
CAAGGTGCTCTGGTCCGTGGTCTGCTGGTCTAGGGGCCCTGCTGGTCTTCTGGC
CCTGCTGAAAAGATGGTGCACCTGGACATCCTGGTACAGTTGGACCTGCTGGCATTGGA
GGCCCTCAGGGTACCAAGGCCCTGCTGGCCCCCTGGTCCCCCTGGCCCTCTGGACCT
CCAGGTGTAAGCGGTGGTGGTTATGACTTGGTTACGATGGAGACTTCTACAGGGCTGAC
CAGCCTCGCTCAGCACCTTCTCTCAGACCCAAGGACTATGAAGTTGATGCTACTCTGAAG
TCTCTCAACAACCAGATTGAGACCTTCTTACTCTGAAGGCTCTAGAAAAGAACCCAGCT
CGCACATGCCGTGACTTGAGACTCAGCCACCCAGAGTGGAGCAGTGGTACTACTGGATT
GACCCTAACCAAGGATGCACTATGGATGCTATCAAAGTACTGTGATTTCTTACTGGC
GAAACCTGATCCGGGCCAACCTGAAAACATCCCAGCCAAGAACTGGTATAGGAGCTCC
AAGGACAAGAAACACGTCTGGCTAGGAGAACTATCAATGCTGGCAGCCAGTTTGAATAT
AATGTAGAAGGAGTGACTTCCAAGGAAATGGCTACCCAATTGCCTTCTGCGCCTGCTG
GCCAACTATGCCTCTCAGAACATCACCTACCCTGCAAGAACAGCATTGCATACATGGAT
GAGGAGACTGGCAACCTGAAAAAGGCTGTCACTTACAGGGCTCTAATGATGTTGAACCT
GTTGCTGAGGGCAACAGCAGTTCACTTACACTGTTCTTGTAGATGGTGTCTAAAAAG
ACAAATGAATGGGGAAAGACAATCATTGAATAAAAAACAATAAGCCATCACGCCTGCC
TTCCTTGATATTGCACCTTTGGACATCGGTGGTGTGACCAGGAATTCTTGTGGACATT
GGCCAGTCTGTTCAAATAA
    
```

Clone variation with respect to NM\_000089.3  
 1446 a=>c;1645 c=>g

**5' Read Nucleotide Sequence:**

```
>OriGene 5' read for NM_000089 unedited
GGGGNNAANGGGGGGNNNAANNNTTNTTNNACCCCTTATTACCCCGCCCGTTGCCGC
AAAGGGCGGTAGGCGTGTACGGTGGGNAGTCTATATAAGCAGAGCTCATTTAGGTGACAC
TATAGAATACAAGCTACTTGTCTTTTTGCAGCGGCCGGAATTCGGCAGAGGGTTTCG
GCTAAGTTGGAGTACTGGCCACGACTGCATGCCCGCGCCCGCCAGGTGATACCTCCGCC
GGTGACCCAGGGGCTCTGCGACACAAGGAGTCTGCATGTCTAAGTGTAGACATGCTCAG
CTTTGTGGATACGCGGACTTTGTTGCTTGCAGTAACCTTATGCCTAGCAACATGCCA
ATCTTTACAAGAGGAACTGTAAGAAAGGGCCAGCCGGAGATAGAGGACCACGTGGAGA
AAGGGGTCCACCAAGCCCCCAGGCAGAGATGGTGAAGATGGTCCACAGGCCCTCTGG
TCCACCTGGTCTCTGGCCCCCTGGTCTCGGTGGAACTTTGCTGCTCAGTATGATGG
AAAAGGAGTTGGACTTGGCCCTGGACCAATGGGCTTAATGGGACCTAGAGGCCACCTGG
TGCAGCTGGAGCCCCAGGCCCTCAAGGTTTCCAAGGACCTGCTGGTGGAGCCTGGTGAAC
TGGTCAAACCTGGTCTGCAGGTGCTCGTGGTCCAGCTGGCCCTCTGGCAAGGCTGGTGA
AGATGGTCAACCCTGGAACCCGACGACCTGGTGGAGAGGAGTTGTTGGACCACAGGG
TGCTCGTGGTTTTCCCTGGAACCTCTGGACTTCTGGCTTCAAGGCATTANGGGACACAAT
GGTCTGGATGGATTGAAGGGACAGCCCCGTCTCTGGTGTGAAGGGTGAACCTGGTGCC
CCTGTTGAAATGGAACCTCA
```

**3' Read Nucleotide Sequence:**

```
>OriGene 3' read for NM_000089 unedited
NNNCCCCCTTTNGGGNNTGACTTGNACCGCGCCNCTACTGANGATCGGTTTTTTTTTTT
TTTTTTGGGTTTCTTACAAAGTTGACTTTTCCATAACAGGTGTAAGAGTGTCTGAAAA
AAAATTCAAATTTTTGGGGGAGCGGGGAAGGAGTTAATGAAACTGTATTGCACAATGCT
CTGATCAATCCTTCTTTTTCTCTTTTGGCCACAATTAAGCAAGTAGATGTGCAGAAGAA
ATGGAAGGATTCAGCTTTCAGTTAAAAAGGAGCAAGAAGAAATGGCCAAGAGAAAGGTTT
TTCAAAATCTTTCTTTTTAAATTAATTAATGAGTCATTTTATTGGAACAGACTGGGCCA
ATGGTCCCCAAGAAATCCCTGGTCAGCACACCAGGTGGCCCAAGGTGGCATAATCAAGGA
AGGCCCGCCGAAAGGCTTATTTGTTTTGGATTCAAGAATGGCTTTTCCATTCTTTGGC
TTTTTTAAGACCCTTTTCAAGAAAAGGGGAAGGGAACCTTTGTTGGCCTCAAAACCAAG
TTTAAATCTTTTAAACCCTGTGAAAAACAACCTTTTTTAGGGGGCCCGATTCCCCCAC
CCCTTATTGCCAAAGTGGTTTTTTTTAAGGGGAGGGGAAGGTTTCTTAGAGGCACAAAT
GTGCCCAAGGCCCCCTAAAGGACACAATGGGGAAACCCCTTTTCTTTGGAAAAAC
CCCCCTTTTTCAATATTTTATTAATAAGGGTTGGGCGCACAATTTTATGATTTTTTTC
TCTACCCCAACACAAAGTTTTTTTTTCGCCTCGTTAGGGGCCCTATAACAACACCTTT
TTGTTGGGGGAGGATTTTCAAGAGAGGGGGCGCCGCCAAACACACTTTTTTTCCCCCG
CTGAAAAAACCCCCCAATCTTCTTT
```

**Restriction Sites:**

NotI-NotI

**ACCN:**

NM\_000089

**Insert Size:**

5100 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](#)

**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\\_000089.3](#), [NP\\_000080.2](#)

**RefSeq Size:** 5411 bp

**RefSeq ORF:** 4101 bp

**Locus ID:** 1278

**UniProt ID:** [P08123](#)

**Cytogenetics:** 7q21.3

**Domains:** COLFI, Collagen

**Protein Families:** Druggable Genome

**Protein Pathways:** ECM-receptor interaction, Focal adhesion

**Gene Summary:**

This gene encodes the pro-alpha2 chain of type I collagen whose triple helix comprises two alpha1 chains and one alpha2 chain. Type I is a fibril-forming collagen found in most connective tissues and is abundant in bone, cornea, dermis and tendon. Mutations in this gene are associated with osteogenesis imperfecta types I-IV, Ehlers-Danlos syndrome type VIIB, recessive Ehlers-Danlos syndrome Classical type, idiopathic osteoporosis, and atypical Marfan syndrome. Symptoms associated with mutations in this gene, however, tend to be less severe than mutations in the gene for the alpha1 chain of type I collagen (COL1A1) reflecting the different role of alpha2 chains in matrix integrity. Three transcripts, resulting from the use of alternate polyadenylation signals, have been identified for this gene. [provided by R. Dagleish, Feb 2008]