

## Product datasheet for **RG223010**

### Collagen IV (COL4A3) (NM\_000091) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Collagen IV (COL4A3) (NM_000091) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	COL4A3
Synonyms:	ATS2; ATS3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG223010 representing NM_000091 Red=Cloning site Blue=ORF Green=Tags(s)

GACGTTGTATACGACTCCTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGGCGCGCC

ATGAGCGCCCGACCGCCCCAGGCCGAGGTGCTCCTGCTGCCGCTCCTGCTGGTGTCTCTGGCGCGG  
CGCCCGCAGCCAGCAAGGGTTGTGTCTGTAAGACAAAGGCCAGTGCTTCTGTGACGGGGCCAAAGGGGA  
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TTGCCAGGGTTACATGGTGTAAAAGGAATCCCAGGAAGACAAGGCGCAGCTGGCTTGAAAGGAAGCCCAG  
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 CTTTCATTAACCCAGAAAGAATGTTTCAGAAAGCCTATTCATCAACTGTGAAAGCTGGGGAATTAGAAAA  
 AATAATAAGTCGCTGTCAGGTGTGCATGAAGAAAAGACAC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG223010 representing NM\_000091  
 Red=Cloning site Green=Tags(s)

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 FSFLFVQGNQRAHGQDLGTLGSLQRFTTMPFLFCNVNDVCNFA SRNDYSYWLSTPALMPMMAPITGRA  
 LEPYISRCTVCEGPAIAIAVHSQTTDIPPCPHGWI SLWKGF SFIMFTSAGSEGTQALASPGSCLEEFRA  
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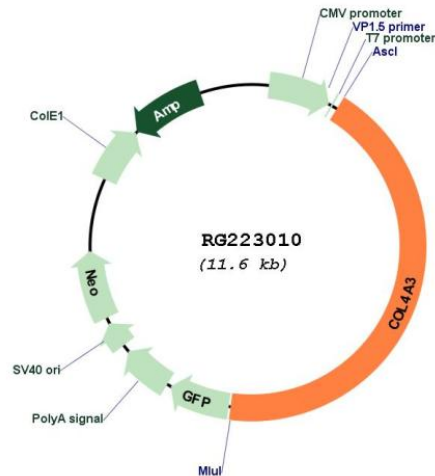
TRTRPLE – GFP Tag – V

Restriction Sites:

AscI-MluI

Cloning Scheme:



**Plasmid Map:**


**ACCN:** NM\_000091

**ORF Size:** 5010 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\\_000091.2](#), [NP\\_000082.1](#)

**RefSeq Size:** 8050 bp

**RefSeq ORF:** 5013 bp

**Locus ID:** 1285

UniProt ID: [Q01955](#)

Cytogenetics: 2q36.3

Protein Families: Druggable Genome

**Gene Summary:** Type IV collagen, the major structural component of basement membranes, is a multimeric protein composed of 3 alpha subunits. These subunits are encoded by 6 different genes, alpha 1 through alpha 6, each of which can form a triple helix structure with 2 other subunits to form type IV collagen. This gene encodes alpha 3. In the Goodpasture syndrome, autoantibodies bind to the collagen molecules in the basement membranes of alveoli and glomeruli. The epitopes that elicit these autoantibodies are localized largely to the non-collagenous C-terminal domain of the protein. A specific kinase phosphorylates amino acids in this same C-terminal region and the expression of this kinase is upregulated during pathogenesis. This gene is also linked to an autosomal recessive form of Alport syndrome. The mutations contributing to this syndrome are also located within the exons that encode this C-terminal region. Like the other members of the type IV collagen gene family, this gene is organized in a head-to-head conformation with another type IV collagen gene so that each gene pair shares a common promoter. [provided by RefSeq, Jun 2010]