

Product datasheet for **SC119689**

Angiotensin Converting Enzyme 1 (ACE) (NM_000789) Human Untagged Clone

Product data:

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|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | Angiotensin Converting Enzyme 1 (ACE) (NM_000789) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | Angiotensin Converting Enzyme 1 |
| Synonyms: | ACE1; CD143; DCP; DCP1 |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |
| Fully Sequenced ORF: | >NCBI ORF sequence for NM_000789, the custom clone sequence may differ by one or more nucleotides |

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ATGGGGGCCCGCTCGGGCCCGGGGGCGGGGCTGCTGCTGCCGCTGCCGCTGCTGTTGCTGCTGCCGC
CGCAGCCCGCCCTGGCGTTGGACCCCGGGCTGCAGCCCGCAACTTTTCTGCTGACGAGGCCGGGGCGCA
GCTCTTCGCGCAGAGCTACAACCTCCAGCGCCGAACAGGTGCTGTTCCAGAGCGTGGCCGCCAGTGGGCG
CACGACACCAACATCACCGCGGAGAATGCAAGGCGCCAGGAGGAAGCAGCCCTGCTCAGCCAGGAGTTTG
CGGAGGCTGGGGCCAGAAGGCCAAGGAGCTGTATGAACCGATCTGCCAGAACTTACGGACCCGACGT
GCGCAGGATCATCGGAGCTGTGCGCACCTGGGCTCTGCCAACCTGCCCTGGCTAAGCGGCAGCAGTAC
AACGCCCTGCTAAGCAACATGAGCAGGATCTACTCCACCGCAAGGTCTGCCTCCCAACAGACTGCCA
CCTGCTGGTCCCTGGACCCAGATCTACCAACATCCTGGCTTCCCTCGCGAAGCTACGCCATGCTCCTGTT
TGCTGGGAGGGCTGGCAACGCTGCGGGCATCCCGTGAAACCGCTGTACGAGATTTACTGCCCTC
AGCAATGAAGCCTACAAGCAGGACGGCTTACAGACACGGGGGCTACTGGCGCTCCTGGTACAACCTCCC
CCACCTTCGAGGACGATCTGGAACACCTTACCAACAGCTAGAGCCCTTACCTGAACCTCCATGCCTT
CGTCCGCCGCGCACTGCATCGCCGATACGGAGACAGATACATCAACCTCAGGGGACCCATCCCTGCTCAT
CTGCTGGGAGACATGTGGGCCAGAGCTGGGAAAACATCTACGACATGGTGGTGCCTTTCCAGACAAGC
CGAGTTTTCACCTCCCTGGAGCTCTCCCCATGCCTCCCGAGTTCTGGGAAGGGTCGATGCTGGAGAAG
CGGCCGACGGGGCGGAAGTGGTGTGCCACGCTCGGCTTGGGACTTCTACAACAGGAAAGACTTCAGGA
TCAAGCAGTGCACACGGGTACGATGGACCAGCTCTCCACAGTGACCATGAGATGGGCCATATACAGTA
CTACCTGCAGTACAAGGATCTGCCGCTCTCCCTGCGTGGGGGGCCAACCCCGGCTTCCATGAGGCCATT
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CCAATGACACGAAAAGTACATCAATTACTTGTAAAAATGGCACTGGAAAAAATTCCTTCTGCCCTT
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GTTCCAGTTCATGAAGCCCTGTGCAAGGAGGCAGGCTATGAGGGCCCACTGCACCAGTGTGACATCTAC
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 TGCTGAAGGACATGGTCGGCTTAGATGCCCTGGATGCCAGCCGCTGCTCAAGTACTTCCAGCCAGTCAC
 CCAGTGGCTGCAGGAGCAGAACCAGCAGAACGGCGAGGTCTGGGCTGGCCGAGTACCAGTGGCACCCG
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 GGAGGGTATTTGATGGAAGCATACCAAGGAGAACTATAACCAGGAGTGGTGGAGCCTCAGGCTGAAGTA
 CCAGGGCCTCTGCCCCAGTGCCAGGACTCAAGGTGACTTTGACCCAGGGGCCAAGTTCCACATTCCT
 TCTAGCGTGCCTTACATCAGGACTTTGTGAGCTTTCATCATCCAGTTCCAGTTCCACGAGGCACTGTGCC
 AGGCAGCTGGCCACACGGGCCCTGCACAAGTGTGACATCTACCAGTCCAAGGAGGCGGGCAGCGCCT
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 AACATGAGCGCCTCGCCATGTTGAGCTACTTCAAGCCGCTGCTGGACTGGCTCCGCACGGAGAACGAGC
 TGCATGGGGAGAAGCTGGGCTGGCCGAGTACAACCTGGACGCCAAGTCCGCTCGCTCAGAAGGGCCCT
 CCCAGACAGCGCCGCTCAGCTTCTGGGCTGGACCTGGATGCGCAGCAGGCCCGCTGGGCCAGTGG
 CTGCTGCTTCTTGGGATCGCCCTGCTGGTAGCCACCCTGGGCTCAGCCAGCGGCTCTTACGATCC
 GCCACCGCAGCCTCCACGGCACTCCACGGGCCAGTTTCGGCTCCGAGGTGGAGCTGAGACACTCCTG
 A

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_000789 unedited
 GCACGAGGCCGCGCACCGCTCATGGGGGCCGCTCGGGCCGCGGGGGCCGGGGCTGCT
 GCTGCCGCTGCCGCTGCTGTTGCTGCTGCCGCCGAGCCCGCCCTGGCGTTGGACCCCG
 GCTGCAGCCCGCAACTTTTCTGCTGACGAGGCCGGGGCCGAGCTCTTCGCGCAGAGCTA
 CAACTCCAGCGCGAACAGGTGCTGTTCCAGAGCGTGGCCGCAAGTGGGCGCACGACAC
 CAACATCACCGCGGAGAAATGCAAGGCGCCAGGAGGAAGCAGCCCTGCTCAGCCAGGAGTT
 TGCGGAGGCTGGGGCCAGAAGGCCAAGGAGCTGTATGAACCGATCTGGCAGAATTCAC
 GGACCCGAGCTGCGCAGGATCATCGGAGCTGTGCGCACCCCTGGGCTCTGCCAACCTGCC
 CCTGGCTAAGCGGCAGCAGTACAACGCCCTGCTAAGCAACATGAGCAGGATCTACTCCAC
 CGCCAAGTCTGCCTCCCAACAAGACTGCCACCTGCTGGTCCCTGGACCCAGATCTCAC
 CAACATCCTGGCTTCTCGCGAAGCTACGCCATGCTCCTGTTTGCCTGGGAGGGCTGGCA
 CAATGCTGCGGGCATCCCGCTGAAACCGCTGTACGAGGATTTACTGCCCTCAGCATGAA
 GCCTACAGCAG

Restriction Sites:

NotI-NotI

ACCN:

NM_000789

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|-------------------------------|--|
| Insert Size: | 5300 bp |
| OTI Disclaimer: | <p>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 or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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</p> |
| 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: | <ol style="list-style-type: none"> 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_000789.2 , NP_000780.1 |
| RefSeq Size: | 4969 bp |
| RefSeq ORF: | 3921 bp |
| Locus ID: | 1636 |
| UniProt ID: | P12821 |
| Cytogenetics: | 17q23.3 |
| Domains: | Peptidase_M2 |
| Protein Families: | Druggable Genome, ES Cell Differentiation/IPS, Protease, Secreted Protein, Transmembrane |
| Protein Pathways: | Hypertrophic cardiomyopathy (HCM), Renin-angiotensin system |

Gene Summary:

This gene encodes an enzyme involved in blood pressure regulation and electrolyte balance. It catalyzes the conversion of angiotensin I into a physiologically active peptide angiotensin II. Angiotensin II is a potent vasopressor and aldosterone-stimulating peptide that controls blood pressure and fluid-electrolyte balance. This angiotensin converting enzyme (ACE) also inactivates the vasodilator protein, bradykinin. Accordingly, the encoded enzyme increases blood pressure and is a drug target of ACE inhibitors, which are often prescribed to reduce blood pressure. This enzyme additionally plays a role in fertility through its ability to cleave and release GPI-anchored membrane proteins in spermatozoa. Many studies have associated the presence or absence of a 287 bp Alu repeat element in this gene with the levels of circulating enzyme. This polymorphism, as well as mutations in this gene, have been implicated in a wide variety of diseases including cardiovascular pathophysiologies, psoriasis, renal disease, stroke, and Alzheimer's disease. Regulation of the homologous ACE2 gene may be involved in progression of disease caused by several human coronaviruses, including SARS-CoV and SARS-CoV-2. Alternative splicing results in multiple transcript variants encoding both somatic (sACE) and male-specific testicular (tACE) isoforms. [provided by RefSeq, Sep 2020]

Transcript Variant: This variant (1), also known as the endothelial or somatic form, represents the longest transcript and encodes the longest isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.