

## Product datasheet for **KN205392**

### Angiotensin Converting Enzyme 1 (ACE) Human Gene Knockout Kit (CRISPR)

#### Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 GFP-puro donor, 1 scramble control
Donor DNA:	GFP-puro
Symbol:	Angiotensin Converting Enzyme 1
Locus ID:	1636
Components:	<b>KN205392G1</b> , Angiotensin Converting Enzyme 1 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GCAGCCCCGGGGTCCAACGCC <b>KN205392G2</b> , Angiotensin Converting Enzyme 1 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002), Target Sequence: GGGCCGCCTCGGGCCGCCGG <b>KN205392D</b> , donor DNA containing left and right homologous arms and GFP-puro functional cassette.

Homologous arm and GFP-puro sequences:

pUC vector backbone in gray; **Left arm sequence in blue**; **GFP-puro in green**; **Right arm in violet**

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AGAAGTAAGT TGGCCGAGT GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT ACTGTCATGC
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TTCAGCTCCG GTTCCCAACG ATC

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**GE100003**, scramble sequence in pCas-Guide vector

**Disclaimer:**

These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.

**RefSeq:**

[NM\\_000789](#), [NM\\_001178057](#), [NM\\_152830](#), [NM\\_152831](#)

**UniProt ID:**

[P12821](#)

**Synonyms:**

ACE1; CD143; DCP; DCP1

## 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]

## Product images:

