

## Human Angiotensin-Converting Enzyme 2 (hACE2) Stable Cell Line

CATALOG NUMBER: CL-hACE2-001

### Introduction

ACE2 is known to serve as the entry point into cells for some coronaviruses, including HCoV-NL63, SARS-CoV, and SARS-CoV-2. Cells in the lungs, arteries, heart, kidney, and intestines, express high level of ACE2 on their membrane surface. ACE2 is a promising drug target for treating cardiovascular diseases and for preventing COVID-19.

### Description

This HEK293-hACE2 stable cell line expresses a recombinant human ACE2 (Angiotensin-Converting Enzyme 2) with the Green Fluorescent Protein (GFP) fused to its C-terminus. The cells have GFP signals on the cell membrane. The expression of ACE2 on the cell membrane has also been confirmed by FACS analysis.

### Parental Cells

HEK-293 cells

### Gene/Enzyme Introduced

1) Human ACE2 (EC 3.4.17.23)

Other name(s): ACE-2; ACE2; hACE2; angiotensin converting enzyme 2; angiotensin converting enzyme-2; Tmem27  
Genbank Locus ID 59272

2) GFP (Green Fluorescent Protein)

### Applications

- SARS-CoV-2 entry study
- Cell based high-throughput screening of human ACE2 antagonists

### Functional Tests

- This cell line has been tested positive for ACE2 specific response
- Survival rate: more than 2 million/vial on the second day after thawing

### Mycoplasma Contamination Test

This lot of cells have been tested and found to be free of mycoplasma contamination.

### Content

- Stable hACE2 cells: 1 mL (2 x 10<sup>6</sup> cells/mL in DMEM, 10% FBS, 10% DMSO)

### Growth Properties

Adherent

### Cell Culture Medium

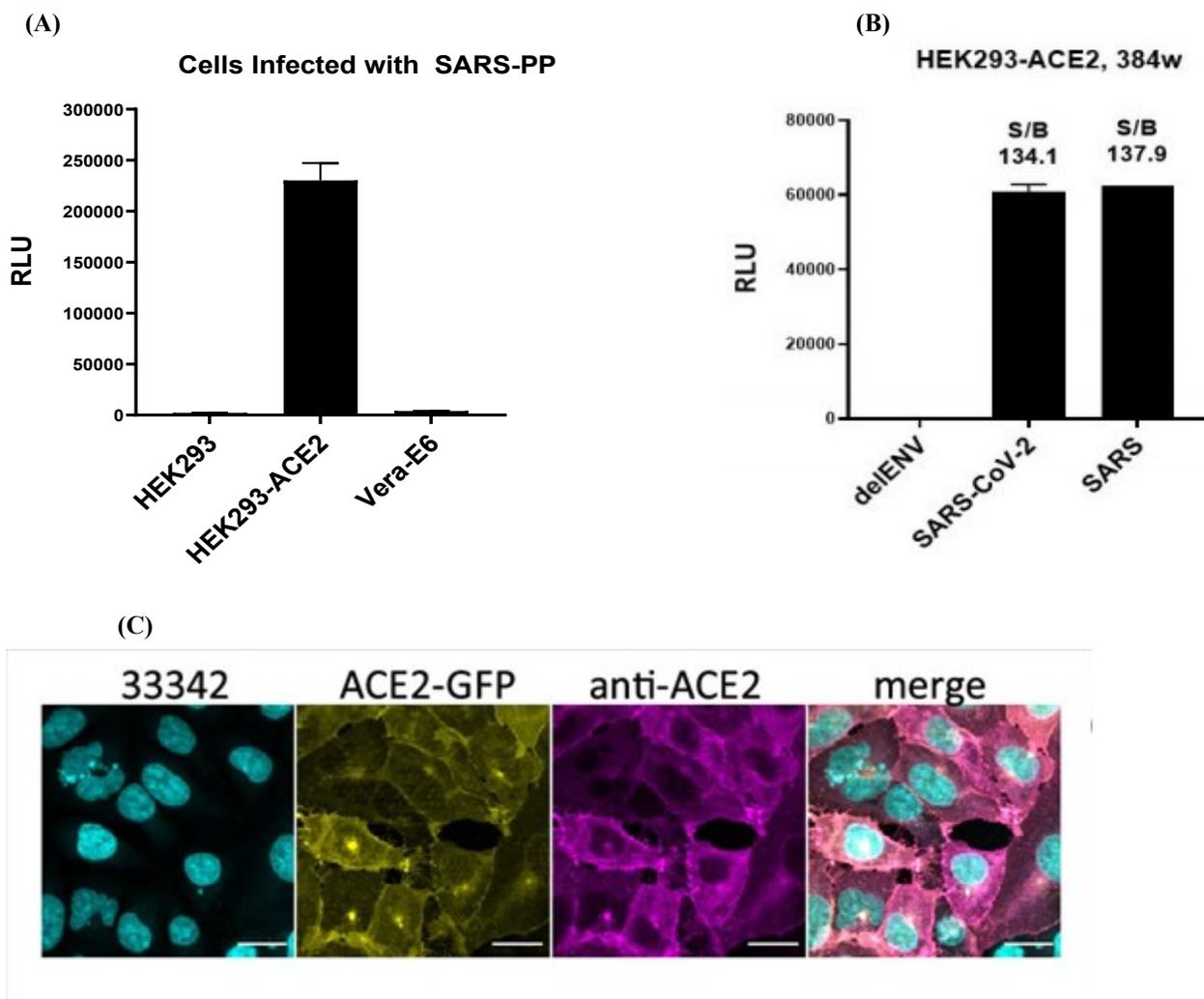
- Growth medium: DMEM + 10%FBS + 1X P/S + 250 ug/ml G418
- Freezing medium: 10% DMSO, 90% growth medium

### Storage

Remove the frozen cells from the dry ice packaging and immediately place the cells at a temperature below -130°C, preferably in liquid nitrogen vapor, until ready for use.



Data Example



**Figure (A).** SARS Pseudovirus Particles Infection of different cell lines

20K of HEK293, HEK293-ACE2 and Vero E6 cells were plated to a 96-well white clear plate. On the 2<sup>nd</sup> day, the cells were infected with 50µl of SARS Pseudovirus Particles and cultured for additional 42 hrs. The cells were lysed and the firefly luciferase activity was measured with Codex's luciferase assay kit (Catalog# [CA-L165](#)).

**Figure (B).** HEK2930ACE2 cells used in Pseudoviral particles infection assays, with SARS, SARS-CoV-2 (Catalog# [SCV2-PsV-001](#)), and the negative control delENV (Catalog# [PsV-001](#)) pseudoviral particles.

**Figure (C).** Representative image montage of immunofluorescence staining for ACE2 in ACE2-GFP HEK293 cells.

Cells were stained with Hoechst 33342 for nuclei (cyan), mouse anti-ACE2 antibody (yellow), and HCS Cell Mask Deep Red for whole cell fill (magenta). N = 9 fields each from 3 triplicate wells. (Data from the publication: Reference 1\*)

\*Reference 1. Quantum Dot-Conjugated SARS-CoV-2 Spike Pseudo-Virions Enable Tracking of Angiotensin Converting Enzyme 2 Binding and Endocytosis. Gorshkov, K. et al. ACS Nano. 2020 Sep 22; 14(9): 12234–12247

Restriction

This cell line is not allowed to be transferred to other laboratory or other company. For purchasing this cell line, please contact eEnzyme LLC at [info@eEnzyme.com](mailto:info@eEnzyme.com), Telephone: +1 (240) 683 5851, FAX: +1 (240) 683 5852