

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ACE-2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 1% cross-reactivity with recombinant human ACE is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human ACE-2 Gln18-Ser740 Accession # Q9BYF1
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	HEK293 Human Cell Line Transfected with Human ACE-2 and eGFP

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Protect from light. Do not freeze.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

ACE-2, also called ACEH (ACE homolog), is an integral membrane protein and a zinc metalloprotease of the ACE family that also includes somatic and germinal ACE (1). Human ACE-2 has about 40% amino acid identity to the N- and C-terminal domains of human somatic ACE. The predicted human ACE-2 protein sequence consists of 805 amino acids, including a N-terminal signal peptide, a single catalytic domain, a C-terminal membrane anchor, and a short cytoplasmic tail. ACE-2 cleaves angiotensins I and II as a carboxypeptidase. ACE-2 mRNA is found at high levels in testis, kidney, and heart and at moderate levels in colon, small intestine, and ovary. Classical ACE inhibitors such as captopril and lisinopril do not inhibit ACE-2 activity. Novel peptide inhibitors of ACE-2 do not inhibit ACE activity (2). Genetic data from Drosophila, mice and rats show that ACE-2 is an essential regulator of heart function in vivo (3).

ACE2 has been shown to be a functional receptor of the human coronaviruses SARS-CoV and SARS-CoV-2 (4, 5). The Human anti-ACE2 antibody (catalog # AF933) was used to block the variant SARS-CoV-2 and ACE2 interaction to elucidate viral transmission and potential therapeutic strategies. (5)

References:

1. Tipnis, S.R. et al. (2000) J. Biol. Chem. **275**:33238.
2. Crackower, M.A. et al. (2002) Nature **417**:822.
3. Huang, L. et al. (2003) J. Biol. Chem. **278**:15532.
4. Li, W. et al. (2003) Nature **426**:450.
5. Hoffmann, M. et al. (2020) Cell. DOI: 10.1016/j.cell.2020.02.052.

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