

#### DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human ACE-2 in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 535919
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human ACE-2 Gln18-Ser740 Accession # Q9BYF1
<b>Conjugate</b>	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
<b>Formulation</b>	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.

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

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

#### BACKGROUND

Angiotensin I Converting Enzyme-2 (ACE-2), also called ACEH (ACE homolog), is a type I transmembrane zinc protease that cleaves angiotensins I and II to produce vasodilatory and anti-proliferative peptides. The balance between ACE-1 and ACE-2 activity is critical for maintaining cardiovascular, renal, and pulmonary function (1). ACE-2 also functions as the cellular uptake receptor for the SARS coronavirus. Within the extracellular domain, human ACE-2 shares 83% aa sequence identity with mouse and rat ACE-2. 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 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). ACE-2 isoforms of 75 kDa and 120 kDa are differentially expressed between lung and kidney, respectively, and a shed soluble form is generated by TACE/ADAM17 mediated cleavage.

#### 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.

#### PRODUCT SPECIFIC NOTICES

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