

Technical Bulletin

Anti-ACE2 Antibody Produced in Rabbit

Affinity isolated antibody

SAB4200886

Product Description

Anti-ACE2 antibody is developed in rabbit using synthetic peptide corresponding to the human ACE2 (GeneID: 59272), conjugated to KLH as immunogen. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-ACE2 antibody specifically recognizes ACE2 from human origin. The antibody may be used in various immunochemical techniques including ELISA, immunoblotting and immunohistochemistry. Detection of the ACE2 band by Immunoblotting is specifically inhibited by the immunogen.

Angiotensin Converting Enzyme-2 (ACE2) is a membrane-associated and secreted enzyme that is principally expressed on endothelium. In humans, ACE2 occurs mainly in endothelium of heart, kidney, and testis, with other expression in coronary vessel smooth muscle and kidney tubular epithelium.¹ ACE2 is a component of the renin-angiotensin system (RAS) that provides protective effects in peripheral tissues.²

Coronaviruses such as SARS-CoV-2 and SARSCoV-1 use the host ACE2 as a co-receptor to gain intracellular entry into the lungs and brain.^{3,4} The virion expresses a protein termed spike, which directly binds to the extracellular domain of ACE2. A specific region in the spike protein serves as the receptor binding domain (RBD). The ACE2:spike interaction has a high affinity of 15 nM.⁵

Anti-ACE2 antibodies are important tools in the COVID-19 research field and can be used for detection of ACE2 protein in different samples and in cell culture assays.⁶

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Indirect ELISA

A working dilution of 1: 800-1:1,600 is recommended using 2 µg/mL human ACE2 (Cat. No. SAE0064) for coating.

Immunoblotting

A working dilution of 1:2,000-1:4,000 is recommended using Rat kidney lysate.

Immunohistochemistry

A working dilution of 1:500-1:1000 is recommended using human kidney sections.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Donoghue, M. et al., *Circ. Res.*, **87(5)**, e1-e9 (2000).
2. Chamsi-Pasha, M. et al., *Curr. Heart Fail. Rep.*, **11(1)**, 58-63 (2014).
3. Verdecchia, P. et al., *Eur. J. Intern. Med.*, **76**, 14-20 (2020).
4. Hoffmann, M. et al., *Cell*, **181(2)**, 271-280.e8 (2020).
5. Williams, V.R. et al., *Curr. Opin. Nephrol. Hypertens.*, **27(1)**, 35-41 (2018).
6. Sedokani, A. et al., *Drug Design, Development and Therapy* **14**, 2607, (2020)

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