Antibodies

Anti-Human ACE2 Antbody, Clone AC18F

Mouse monoclonal IgG1 antibody against human angiotensin-converting enzyme 2 (ACE2), unconjugated

Catalog	#100-0754	50 µg	1 mg/mL
	#100-0755	100 µg	1 mg/mL

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Product Description

The AC18F antibody reacts with angiotensin-converting enzyme 2 (ACE2), a type I integral membrane protein, which includes a short C-terminal cytoplasmic domain made of 22 amino acids, a transmembrane domain, and a large N-terminal ectodomain made of 740 amino acids. The N-terminal domain of ACE2 contains a catalytic zinc-binding motif, which shares a 42% similarity to the catalytic binding domain of ACE. Despite the similarity in catalytic domains, ACE2 functions as a carboxypeptidase, while ACE functions as either a peptidyl dipeptidase or an endopeptidase. In humans, ACE2 is a key regulator of the renin-angiotensin system, where it catalyzes the cleavage of the vasoconstrictor peptide angiotensin II to angiotensin 1-7. Expression of ACE2 can be found on endothelial cells throughout the body, such as in the kidney, heart, and lungs. In the airways leading to the lungs, ACE2 provides the main entry point for SARS-CoV-2 (2019-nCoV). Once the SARS-CoV-2 Spike Protein binds to ACE2, viral fusion with the host cell membrane can occur, resulting in viral RNA genome delivery.

Target Antigen Name:	ACE2
Alternative Names:	SARS Receptor, Angiotensin-converting Enzyme 2, ACEH, Metalloprotease MPROT15, SARS-CoV-2 Receptor
Gene ID:	59272
Species Reactivity:	Human; does not detect recombinant human ACE2 with a C-terminal tag
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	AC18F
Isotype:	IgG1, kappa
Immunogen:	Extracellular domain of human ACE2 recombinant protein (aa 18 - 740)
Conjugate:	Unconjugated

Applications

Reported:	ELISA, FC, WB

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered solution, pH 7.4, containing 10% glycerol
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at -20°C when stored undiluted. Stable until expiry date (EXP) on label.
Directions for Use:	The suggested use of this antibody is: ELISA, 1:2000 - 1:10,000; WB, 1:2000 - 1:10,000. It is recommended that the antibody be titrated for optimal performance for each application.

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

1. Buchrieser J et al. (2020) Syncytia formation by SARS-CoV-2-infected cells. EMBO J 39(23): 1–12. (WB)
2. Song X et al. (2020) High expression of angiotensin-converting enzyme-2 (ACE2) on tissue macrophages that may be targeted by virus SARS-CoV-2 in COVID-19 patients. bioRxiv 21(1): 1–9. (FC)
3. Hashizume M et al. (2021) Population-specific ACE2 single-nucleotide polymorphisms have limited impact on SARS-CoV-2 infectivity in vitro. Viruses 13(1): 1–10. (WB)