

Product Information

SARS-COV-2-Spike-RBD Epitope (370-394)

Linear Peptide from the SARS-COV-2 Spike Protein RBD

SAE2000

Product Description

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2; original World Health Organization designation of 2019-nCoV) is a novel coronavirus first reported in December 2019.^{1,2} The SARS-CoV2 Spike protein (also known as the S protein) is the most studied of the SARS-CoV2 proteins, since it contains the Receptor-Binding-Domain (RBD) for the ligand on the host cell membrane (the ACE2 protein). The S protein also has epitopes recognized by T and B cells, which induce the production of neutralizing antibodies.³ The Spike protein is a type I trimeric glycoprotein that is present on the virion membrane, giving it the appearance of a crown. The protein has two subunits:

- S1, or bulb, that contains the RBD⁴⁻¹¹
- S2, or stalk, responsible for the fusion of the virion with the host cell membrane^{7,8,10,12-15}

The main receptor for SARS-CoV and SARS-CoV-2 on the membrane of the target cells is Angiotensin 2 Converting Enzyme (ACE2), a metallopeptidase that is present on the membrane of many cells and tissues,¹⁶⁻¹⁷ such as:

- type-I and -II pneumocytes
- small intestine enterocytes
- kidney proximal tubules cells
- the endothelial cells of arteries and veins
- arterial smooth muscle

Peptides derived from the SARS-COV-2-Spike-RBD protein are important tools in COVID-19 research and can be used for scanning of samples that contain Anti-SARS-CoV Spike RBD antibodies.¹⁸

This SARS-COV-2-Spike-RBD Epitope (370-394) is a synthetic peptide that corresponds to the amino acid sequence, at positions 370-394, of the Spike RBD region (GeneID: QHD43416.1).

Peptides derived from the SARS-COV-2-Spike-RBD protein can be recognized by anti-SARS-CoV-2-Spike protein antibodies. The peptide may be used in various immunochemical techniques, such as immunoblotting and ELISA.

Reagent

This product is supplied as a lyophilized powder.

Purity: ≥ 95% (HPLC)

Precautions and Disclaimer

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

Store the product at -20 °C. After initial thawing, it is recommended to store the peptide in working aliquots at -20 °C.

Recommended thawing solution: Water

References

1. García, L.F., *Front. Immunol.*, **11**, 1441 (2020).
2. Holmes, E.C. et al., *Cell*, **184(19)**, 4848-4856 (2021).
3. Walls, A.C. et al., *Cell*, **181(2)**, 281-292.e6 (2020).
4. Shang, J. et al., *Nature*, **581(7807)**, 221-224 (2020).
5. Tai, W. et al., *Cell. Mol. Immunol.*, **17(6)**, 613-620 (2020).
6. Chen, Y. et al., *Biochem. Biophys. Res. Commun.*, **525(1)**, 135-140 (2020).
7. Hoffmann, M. et al., *Cell*, **181(2)**, 271-280.e8 (2020).
8. Lan, J. et al., *Nature*, **581(7807)**, 215-220 (2020).
9. Liu, Z. et al., *J. Med. Virol.*, **92(6)**, 595-601 (2020).
10. Luan, J. et al., *Biochem. Biophys. Res. Commun.*, **526(1)**, 165-169 (2020).
11. Yan, R. et al., *Science*, **367(6485)**, 1444-1448 (2020).
12. Fung, T.S. and Liu, D.X., *Annu. Rev. Microbiol.*, **73**, 529-557 (2019).
13. Wrapp, D. et al., *Science*, **367(6483)**, 1260-1263 (2020).
14. Ou, X. et al., *Nat. Commun.*, **11(1)**, 1620 (2020).
15. Shang, J., *PLoS Pathog.*, **16(3)**, e1008392 (2020).
16. Hamming, I. et al., *J. Pathol.*, **203(2)**, 631-637 (2004).
17. Zou, X. et al., *Front. Med.*, **14(2)**, 185-192 (2020).
18. Zhang, B.Z. et al., *Cell Res.*, **30(8)**, 702-704 (2020).

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Standard Warranty

The applicable warranty for the products listed in this publication may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

The life science business of Merck operates as MilliporeSigma in the U.S. and Canada.

Merck and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

© 2022 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.
SAE2000dat Rev 03/22 NB,VS,GCY

The Merck logo, consisting of the word "MERCK" in a bold, red, sans-serif font.