

DESCRIPTION

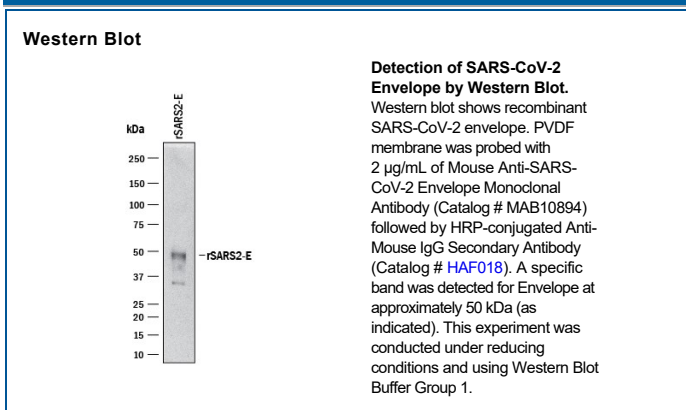
Species Reactivity	SARS-CoV-2
Specificity	Detects human SARS-CoV-2 Envelope protein in direct ELISAs.
Source	Monoclonal Mouse IgG _{2B} Clone # 1044526
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line CHO-derived human SARS2-CoV-2 Envelope protein Thr35-Val75 Accession # YP_009724392
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

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
Western Blot	2 µg/mL	Recombinant SARS-CoV-2 envelope protein

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The SARS-CoV-2 Envelope protein is one of the four major structural proteins of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), the causative agent of COVID-19 (1). The envelope protein is the smallest of the four structural proteins, which also includes the membrane protein, spike protein, and nucleocapsid protein (1, 2). The envelope protein is synthesized as a 75 amino acid protein with a theoretical molecular weight of approximately 8.4 kDa (2, 3). Furthermore, the envelope protein of SARS-CoV-2 has 94.7% sequence identity and 97.4% sequence similarity to the envelope protein of SARS-CoV (2). Structurally, the envelope protein is a membrane protein with a N-terminal domain, an alpha-helical transmembrane domain, and a hydrophilic C-terminal domain (1,4). The envelope protein has multiple functions in viral replication including viral assembly, release, and pathogenesis (2,4). Additionally, the SARS-CoV-2 envelope protein has ion channel activity and functions as a viroporin with a role in virion trafficking (2, 4). Coronaviruses lacking the envelope protein are shown to have reduced viral titer and slowed or defective maturation, indicative of a role in virus production and growth (4).

References:

1. Malik, Y.A. (2020) Properties of Coronavirus and SARS-CoV-2. The Malaysian Journal of Pathology.
2. Yoshimoto F.K. (2020). The Proteins of Severe Acute Respiratory Syndrome Coronavirus-2 (SARS CoV-2 or n-COV19), the Cause of COVID-19. The Protein Journal. <https://doi.org/10.1007/s10930-020-09901-4>.
3. Uniprot (P0DTC4).
4. J. Alsaadi, E.A. & Jones, I. M. (2019). Membrane binding proteins of coronaviruses. Future Virology. <https://doi.org/10.2217/fvl-2018-0144>.