

SARS-CoV-2 Spike Protein S1 RBD ELISA Kit

Catalogue No.: abx365031

Human Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2/COVID-19) Spike Protein S1 RBD ELISA Kit is an ELISA kit for quantitative detection of SARS-CoV-2/COVID-19 Spike Protein S1 RBD in Human tissue homogenates, cell lysates, cell culture supernatants, saliva, and other biological fluids.

The SARS-CoV-2 Spike Protein (S protein) is a viral protein that allows the entry of SARS-CoV-2 into human cells. The protein forms trimers on the viral capsid and binds to human Angiotensin Converting Enzyme 2 (ACE2) located on the cell surface. The protein has a cleavage site between the S1 and S2 subunits that is targeted by the human enzyme Furin, and it may also cause the development of a syncytium (cell fusion). Antibodies to S protein can prevent viral entry as well as target the virus for further immune action.

Target:	SARS-CoV-2 Spike Protein S1 RBD
Reactivity:	Virus, Human
Tested Applications:	ELISA
Recommended dilutions:	Optimal dilutions/concentrations should be determined by the end user.
Storage:	Shipped at 4 °C. Upon receipt, store the kit according to the storage instruction in the kit's manual.
Validity:	The validity for this kit is 6 months.
Stability:	The stability of the kit is determined by the rate of activity loss. The loss rate is less than 5% within the expiration date under appropriate storage conditions. To minimize performance fluctuations, operation procedures and lab conditions should be strictly controlled. It is also strongly suggested that the whole assay is performed by the same user throughout.
Test Range:	0.39 ng/ml - 25 ng/ml
Sensitivity:	0.09 ng/ml
Detection Method:	Colorimetric
Assay Type:	Sandwich
Assay Data:	Quantitative
Sample Type:	Tissue homogenates, cell lysates, cell culture supernatants, saliva and other biological fluids.

Kit Components:

The kit components listed are for reference only. The product manual may differ slightly. The product should be used as stated on the product manual included and delivered together with the product.

- Pre-coated 96-Well Microplate
- Standard
- Standard Diluent Buffer
- Wash Buffer
- Detection Reagent A
- Detection Reagent B
- Diluent A
- Diluent B
- TMB Substrate
- Stop Solution
- Plate Sealer

Material Required But Not Provided:

- 37°C incubator
- Multi and single channel pipettes and sterile pipette tips
- Squir bottle or automated microplate washer
- 1.5 ml tubes
- Distilled water
- Absorbent filter papers
- 100 ml and 1 liter graduated cylinders
- Microplate reader (wavelength: 450 nm)
- ELISA Shaker

Sample Collection/Preparation:

- **Serum:** Samples should be collected into a serum separator tube. Coagulate the serum by leaving the tube undisturbed in a vertical position overnight at 4°C or at room temperature for up to 60 minutes. Centrifuge at approximately 1000 × g for 20 min. Analyze the serum immediately or aliquot and store at -20°C or -80°C.
- **Plasma:** Collect plasma using heparin or EDTA as an anticoagulant. Centrifuge for 15 minutes at 1000 × g within 30 minutes of collection. Assay immediately or aliquot and store at -20°C or -80°C. Avoid hemolysis and high cholesterol samples.
- **Tissue homogenates:** The preparation of tissue homogenates will vary depending upon tissue type – this is just an example. Rinse tissues with ice-cold PBS to remove the excess of blood. Weigh before homogenization. Finely mince tissues and homogenize with a tissue homogenizer on ice in PBS and sonicate the cell suspension. Centrifuge the homogenates at 5000 × g for 5 min and collect the supernatant. Assay immediately or aliquot and store at -20°C.

Reagent Preparation:

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- 1) Standard: Prepare the standard with the recommended volume of Standard Diluent Buffer, to make the standard solution. Then use the Standard Diluent buffer to carry out serial dilutions of the standard solution, as instructed in the Protocol.
- 2) Wash Buffer: Dilute the concentrated Wash Buffer with distilled water, as instructed in the Protocol.
- 3) Detection Reagent Preparation: Calculate the total volume of working solution required. Dilute Detection Reagent A and Detection Reagent B with Diluent A and Diluent B, respectively, at 1:100.

Assay Procedure:

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- 1) Set standard, test samples and control wells.
- 2) Aliquot 100 µl of diluted standard into the standard wells.
- 3) Aliquot 100 µl of Standard Diluent buffer into control (zero) well.
- 4) Aliquot 100 µl of diluted samples into the sample wells. Incubate for 1 hr at 37 °C.
- 5) Aliquot 100 µl of Detection Reagent A to each well. Incubate for 1 hr at 37 °C.
- 6) Wash 3 times.
- 7) Aliquot 100 µl of Detection Reagent B to each well. Incubate for 90 mins at 37 °C.
- 8) Wash 5 times.
- 9) Aliquot 90 µl of TMB Substrate to each well. Incubate for 10-20 mins at 37 °C.
- 10) Aliquot 50 µl of Stop Solution.
- 11) Measure the OD at 450 nm.

Note:

THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES.

The range and sensitivity is subject to change. Please contact us for the latest product information. For accurate results, sample concentrations must be diluted to mid-range of the kit. If you require a specific range, please contact us in advance or write your request in your order comments.

Please note that our kits are optimised for detection of native samples, rather than recombinant proteins. We are unable to guarantee detection of recombinant proteins, as they may have different sequences or tertiary structures to the native protein.