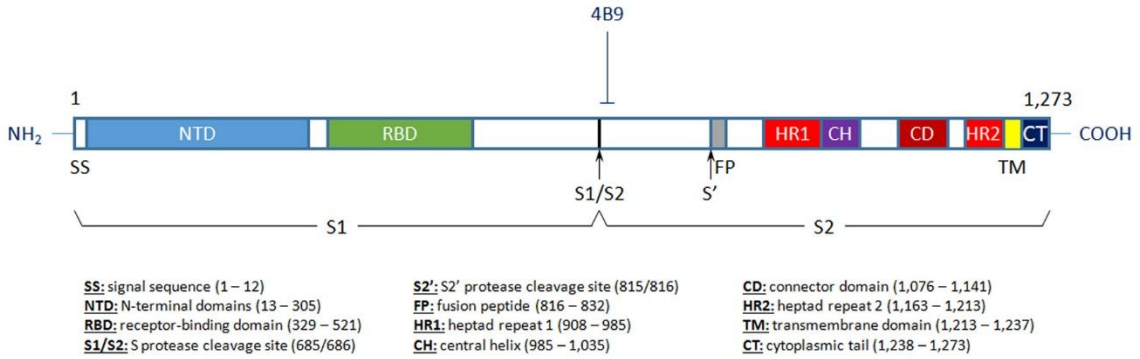
# SARS-CoV-2 Spike (4B9)

| Catalogue # | Mab5091 |
|---|---|

## Epitope Map




This antibody binds to the Furin cleavage site downstream within $V_{687}$ASQSIIAYTMSLGAENS$_{704}$. Thus, it detects both the S2 and full length of spike protein.

## Data

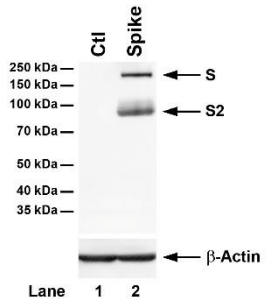



**Figure 1. Western blot (WB):** Cell extracts from stably transfected HT-1080 cells in the absence (Lane 1) or the presence (Lane 2) of SARS-CoV-2 spike protein were prepared and resolved in 10% SDS-PAGE. Equal loading was verified with anti-GST antibody (9G8, #Mab2011) in the lower panel.

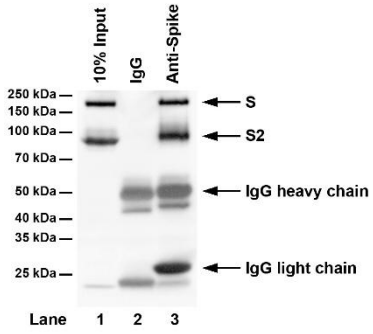



**Figure 2. Immunoprecipitation (IP):** Equal amount of whole cell lysate from stably transfected HT-1080 cells expressing SARS-CoV-2 spike protein were incubated with mouse IgG isotype control (Lane 2) or mouse monoclonal anti-spike antibody (Lane 3) and blotted with the same anti-spike antibody.

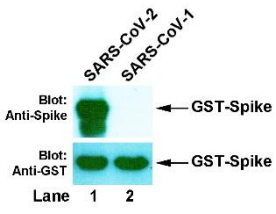



**Figure 3. Western blot (WB):** GST-Spike proteins of SARS-CoV-2 (Lane 1) and SARS-CoV-1 (Lane 2) were expressed in *E. coli.* Then, bacterial lysate was prepared and resolved in 10% SDS-PAGE. Equal loading was verified with anti-GST antibody (2E5, #Mab1013) in the lower panel.

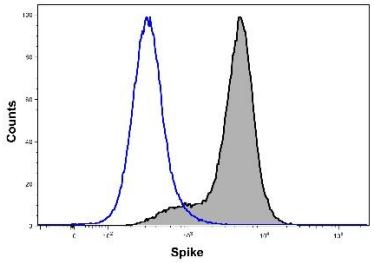



**Figure 4. Flow cytometry (Flow):** The living cells of stably transfected HT-1080 in the absence or presence of SARS-CoV-2 spike protein were stained with mouse monoclonal anti-spike antibody. Goat anti-Mouse IgG (H+L) conjugated with Alexa Fluor™ 568 was used as the secondary antibody.

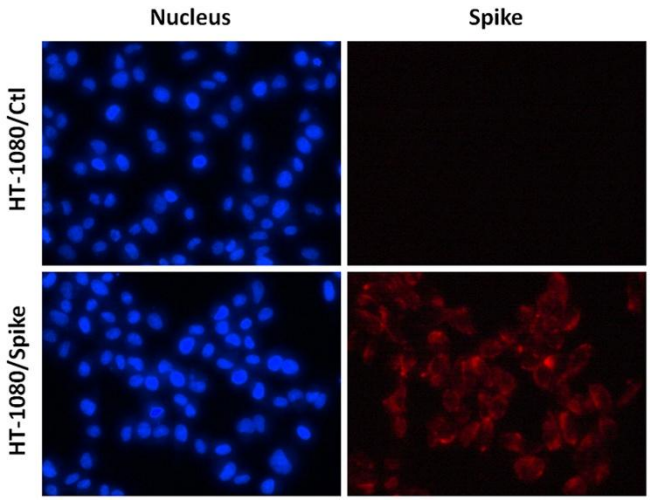



**Figure 5. Immunofluorescence (IF):** Fluorescent images of stably transfected HT-1080 cells in the absence or presence of SARS-CoV-2 spike protein, fixed and labelled with mouse monoclonal anti-spike antibody. Goat anti-Mouse IgG (H+L) conjugated with Alexa Fluor™ 568 was used as a secondary antibody (red). Nuclei were counterstained with Hoechst 33342 (blue).

## Product Information

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| **Gene Symbol:** | SPIKE_SARS2 |
| **Molecular Weight:** | 141 kDa (full-length), but it appears as ~180 kDa in SDS-PAGE. |
| **Source:** | This is a mouse monoclonal antibody raised against the spike protein from SARS-CoV-2. |
| **Clone #:** | 4B9 |
| **Isotype:** | $IgG_1$ |
| **Specificity:** | This antibody detects the spike protein of SARS-CoV-2, but not that of SARS-CoV-1. |
| **Physical Form:** | Freeze-dried powder from 1 × PBS solution, or cell culture media with 0.02% $NaN_3$ |
| **Application:** | • Western blotting (WB): 1:1,000 dilution<br>• Immunoprecipitation (IP): 1:100 dilution<br>• Flow cytometry (Flow): 1:100 dilution<br>• Immunofluorescence (IF): 1:50 dilution |
| **Storage:** | Store freeze-dried powder at 4°C upon arrival. When ready to use, rehydrate with 0.1 ml or desired volume of distilled $H_2O$ and centrifuge if not clear. For long-term storage, make aliquots and keep them at -20°C or below. Avoid repeated freezing and thawing cycles. |

## Background

Coronaviruses are a family of enveloped positive-sense RNA viruses ranging from 60 nm to 140 nm in diameter with trimeric spike proteins on its surface, which gives it a crown-like appearance under electron microscope. Each spike protein can be cleaved at two sites: S1/S2 and S2'. S1 is responsible for binding to the host cell receptor and S2 is for the fusion of the viral and cellular membranes. Angiotensin converting enzyme 2 (ACE2) has been identified as the receptor for both SARS-CoV-1 and SARS-CoV-2, the latter causing coronavirus disease COVID-19. The receptor-binding domain (RBD) is a subdomain of S1, which interacts with the extracellular binding site on ACE2 known as the peptidase domain (PD). Such interaction is central for virus transmission.

## Important Note

This product is intended for research use only, not for use in human therapeutic or diagnostic procedures.