Monoclonal Anti-SARS-Related Coronavirus 2 Spike Glycoprotein Receptor Binding Domain (RBD), Chimeric Antibody (produced in vitro)

Catalog No. NR-55408
ACROBiosystems Catalog No. S1N-M130

For research use only. Not for use in humans.

Contributor and Manufacturer:
ACROBiosystems, Newark, Delaware, USA

Product Description:
Antibody Class: IgG1k
Chimeric monoclonal antibody prepared against the severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2) spike (S) glycoprotein receptor binding domain (RBD) was produced using recombinant antibody technology. The variable region was obtained from mice immunized with purified recombinant SARS-CoV-2 spike S1 protein, which was combined with constant domains of the human IgG1 molecule. Representative SDS-PAGE results are shown in Figure 1.

Material Provided:
Each vial contains 100 µg of lyophilized powder prepared from bulk protein in a 0.2 µm filtered solution of PBS, pH 7.4 with 10% trehalose as protectant.

Packaging/Storage:
NR-55408 was packaged aseptically in glass vials. The product is provided lyophilized and should be placed in a closed, dry environment with desiccants and stored at -20°C or colder immediately upon arrival. A frost-free freezer should be avoided, since changes in moisture and temperature may affect protein stability.

Functional Activity:
NR-55408 is specific against SARS-CoV-2 S protein RBD domain. No cross-reactivity was detected with S protein RBD domain of other coronaviruses, including SARS-CoV, MERS-CoV, HCoV-229E, HCoVNL63, HCoV-OC43 and HCoV-HKU1. Biological activity of NR-55408 was measured via ELISA (Figures 2 and 3) and biolayer interferometry (BLI) assays (Table 1). NR-55408 can be paired with other Anti-SARS-CoV-2 Spike S1 antibodies to detect SARS-CoV-2 Spike S1 protein in sandwich ELISA or lateral flow assay.

Reconstitution:
NR-55408 should be reconstituted with 100 µL sterile deionized water to a stock solution of 1000 µg/mL. It should be solubilized for 30 to 60 minutes at room temperature with occasional gentle mixing. Carrier protein [e.g. 0.1% (w/v) bovine serum albumin] must be included in the reconstitution buffer if the final protein concentration is lower than recommended or NR-55408 is aliquoted to less than 10 µg per vial. Note: Avoid vigorous shaking or vortexing.

Storage of Reconstituted Antibody:
Reconstituted NR-55408 should be stored at -70°C or colder immediately and used within 3 months. Avoid repeated freeze-thaw cycles.

Citation:
Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: Monoclonal Anti-SARS-Related Coronavirus 2 Spike Glycoprotein Receptor Binding Domain (RBD), Chimeric Antibody (produced in vitro), NR-55408.”

Biosafety Level: 1

Disclaimers:
You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

Use Restrictions:
This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

ATCC® is a trademark of the American Type Culture Collection.
Figure 1: Representative SDS-PAGE

Lane 1: MW ladder  
Lane 2: NR-55408 (reduced conditions)  
Lane 3: NR-55408 (non-reducing conditions)

Figure 2: Representative ELISA

2A

Mean Abs (OD450) vs NR-55408 (ng/mL)

2B

Mean Abs (OD450) vs NR-55408 (ng/mL)
Figure 3: Representative ELISA

Table 1: SARS-CoV-2 Spike RBD Binding Affinity

<table>
<thead>
<tr>
<th>Antigen, His Tag</th>
<th>Affinity Constant (nM)</th>
<th>ACROBiosystems Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBD</td>
<td>0.603</td>
<td>SPD-C52H3</td>
</tr>
<tr>
<td>RBD (N501Y)</td>
<td>1.38</td>
<td>SPD-C52Hn</td>
</tr>
<tr>
<td>RBD (K417N, E484K, N501Y)</td>
<td>1.10</td>
<td>SPD-C52Hp</td>
</tr>
<tr>
<td>RBD (K417T, E484K, N501Y)</td>
<td>1.07</td>
<td>SPD-C52Hr</td>
</tr>
<tr>
<td>RBD (L452R, T478K)</td>
<td>1.03</td>
<td>SPD-C52Hh</td>
</tr>
<tr>
<td>RBD (BA.2/Omicron)</td>
<td>1.04</td>
<td>SPD-C522g</td>
</tr>
</tbody>
</table>