Recombinant SARS-CoV-2 RBD (insect cells)

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1. Description

Products Recombinant SARS-CoV-2 RBD (insect cells)
or
Recombinant SARS-CoV-2 RBD (insect cells)-Biotin.

Productname	Content	Order no.
Recombinant SARS-CoV-2 RBD (insect cells)	25 µg	130-127-463
Recombinant SARS-CoV-2 RBD (insect cells)	100 µg	130-127-453
Recombinant SARS-CoV-2 RBD (insect cells)-Biotin	10 µg	130-127-445
Recombinant SARS-CoV-2 RBD (insect cells)-Biotin	50 µg	130-127-469

Functional testing Functionality was tested in a flow assay by analyzing the binding of biotinylated RBD to ACE2-expressing cells.

Primary structure Recombinant SARS-CoV-2 RBD (insect cells): Single glycosylated polypeptide chain (301 amino acid residues) without N-terminal methionine. C-terminal His-tag and N-terminal AviTag™.

Recombinant SARS-CoV-2 RBD (insect cells)-Biotin:
Monobiotinylated glycosylated polypeptide chain (307 amino acid residues) without N-terminal methionine. C-terminal His-tag and N-terminal AviTag.

Molecular mass 34.2 kDa.

Source Produced in Sf9 insect cells.

Product format Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer Mannitol and trehalose.

Purity >95% as determined by SDS-PAGE analysis.

Endotoxin level Low endotoxin (<0.1 EU/µg protein) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage Lyophilized Recombinant SARS-CoV-2 RBD (insect cells) should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution It is recommended to reconstitute lyophilized Recombinant SARS-CoV-2 RBD (insect cells) with deionized, sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL.

1.1 Background information

The receptor binding domain (RBD) is located C-terminally within the S1 subunits of the spike (S) protein. The S protein forms a homotrimeric structure on the surface of the SARS-CoV-2 virus and binds to the angiotensin-converting enzyme 2 (ACE2) receptor of target cells. Recent studies have shown that the predominant activated form displays one RBD rotated upwards into an ACE2-accessible state and it is known that binding of RBD to ACE2 is a major contributor for interaction of the S protein with its target receptor. The SARS-CoV-2 RBD (insect cells) protein covers amino acids R319 to S591 of the spike protein and contains a His-tag and an AviTag. Recombinant SARS-CoV-2 RBD (insect cells)-Biotin is specifically biotinylated at a single site, preserving full functionality of the RBD.

1.2 Applications

The product can be used for a variety of applications, including:

- Analysis of SARS-CoV-2 immune responses
- Detection and characterization of SARS-CoV-2–specific antibodies
- Studying SARS-CoV-2 cell binding, infection, and viral life cycle

The optimal concentration for a specific application should be determined by a dose-response experiment.

Refer to www.miltenyibiotec.com for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com/local to find your nearest Miltenyi Biotec contact.

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