Datasheet for ABIN6952716

SARS-CoV-2 Spike protein RBD-coupled magnetic beads

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Overview

Quantity:	2 mg
Target:	SARS-CoV-2 Spike S1
Binding Specificity:	RBD
Reactivity:	SARS Coronavirus-2 (SARS-CoV-2)
Application:	Flow Cytometry (FACS), Stimulation (St)

Product Details

Purpose:	SARS-CoV-2 Spike protein RBD-coupled magnetic beads
Characteristics:	The pre-coupled magnetic beads coupled with biotinylated SARS-CoV-2 Spike RBD protein to streptavidin conjugated magnetic beads, which can capture the Anti- SARS-CoV-2 antibody or ACE2 protein from cell or serum sample. The beads are in uniform size, narrow size distribution with large surface area and unique surface coating, which can help you get the best performance and highly reproducible results. This very first SARS-CoV-2 Spike protein RBD-coupled magnetic beads will bring great convenience with minimum non-specific binding and developed protocols. This ready to use products could greatly save your time and hassle.
Sterility:	0.22 µm filtered
Components:	Coupled amount of S1 protein: 80 µg / 2 mg beads
Affinity:	Capture ability of Antibody/Sample: > 200 nmol / mg Beads

Target Details

Target:	SARS-CoV-2 Spike S1
Abstract:	SARS-CoV-2 Spike S1 Products
Target Type:	Viral Protein
Gene ID:	43740568
UniProt:	P0DTC2

Application Details

Application Notes:	This product is intended for immunocapture, cell stimulating, biopanning and flow cytometry.
Comment:	1. Reconstitute the Beads following the COA, wash the Beads and suspended to a certain concentration by adding assay Buffer. 2. Add your antibody or ACE-2 protein to the beads, incubation and wash the beads. • **Cell stimulating:** In order to study some downstream mechanisms, this antigen coupled beads can be used to stimulate your target cells. It can be easily removed using a magnet when its work is done. • **Biopanning:** Biopanning is an affinity selection technique which selects for peptides that binds to a given target. In the capturing step, just add the antigen couple beads to your phage library. Simply use a magnet to separate the bound phages from the unbound ones. More efficient and time saving compared to the plate based capture. • **Flow cytometric analysis:** This antigen coupled beads can be used as feeder cells (antigen-presenting cells) to run your flow cytometric analysis, but without the hassle of cell culture.
Protocol:	The Antigen pre Coupled magnetic beads are Coupled with Biotinylated protein onto streptavidin (SA) magnetic beads. Because Streptavidin (SA) has an extraordinarily high affinity for biotin with a dissociation constant (Kd) on the order of 10-14 Mol/L, the Biotinylated protein can bind to the SA beads irreversibly. We provide the SARS-CoV-2 Spike protein RBD-coupled magnetic beads, which could help you to capture the antibody or ACE-2 protein, and easily to follow up with other tests, such as Cell stimulating, biopanning or Flow cytometric analysis.
Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Reconstitution:	Ultrapure water
Buffer:	Lyophilized from 0.22 μm filtered solution in PBS, 0.05 % Tween-20, pH 7.4, with 10 % Trehalose
Handling Advice:	Do not to freeze thaw the Beads after reconstitution.

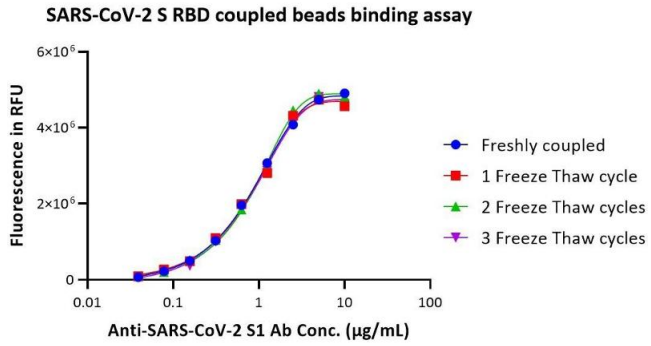
Handling

Storage:	-20 °C
Storage Comment:	Upon receipt, please store the Beads at -20°C for 1 year in lyophilized state. Once the Beads reconstitution, please use it immediately.

Publications

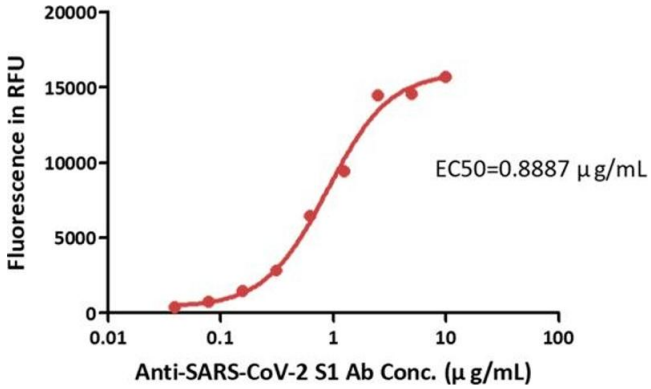
Product cited in:	Greaney, Loes, Gentles, Crawford, Starr, Malone, Chu, Bloom: "Antibodies elicited by mRNA-1273 vaccination bind more broadly to the receptor binding domain than do those from SARS-CoV-2 infection." in: **Science translational medicine**, (2021) (PubMed). Garrett, Galloway, Chu, Itell, Stoddard, Wolf, Logue, McDonald, Matsen, Overbaugh: "High resolution profiling of pathways of escape for SARS-CoV-2 spike-binding antibodies." in: **bioRxiv : the preprint server for biology**, (2020) (PubMed).

Validation report #104288 for Cleavage Under Targets and Release Using Nuclease (CUT&RUN)



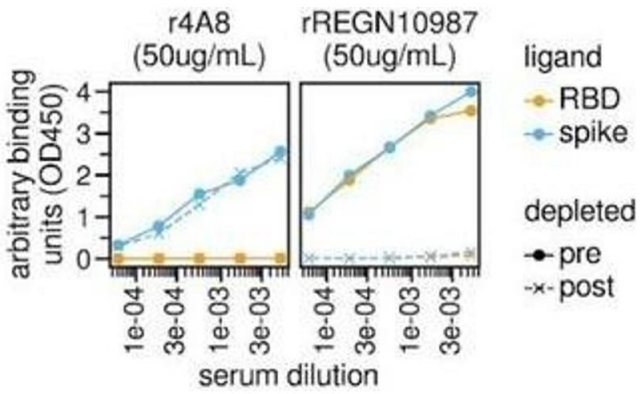
Binding Studies

Image 1. The binding curves between SARS-CoV-2 S RBD pre-coupling magnetic beads after different freeze-thaw cycles and anti-SARS-CoV-2 S1 antibody. 0.1 mg of Beads (1 mg/ml, 100 µl) was washed three times and the supernatant was removed. 100 µL antibodies of the corresponding concentration (10 µg/ml-0.039 µg/ml) were added. Fluorescent labeled secondary antibody was added for detection (Routinely tested).



ELISA

Image 2. Binding of RBD coupled protein to Anti-SARS-CoV-2 S1 antibody:0.1 mg of Beads (1 mg/mL, 100 L) was washed for three times and supernatant was removed. Antibodies of the corresponding concentration of 100 L (10 g/mL~0.039 g/mL) were added. One hour later,fluorescent labeled secondary antibody was added for another one-hour-reaction, the corresponding Binding signal was detected and the Binding curve as obtained.



Depletion

Image 3. ABIN6952716 used for Depletion. Effect of RBD antibody depletion on binding to RBD and spike by “synthetic sera” comprised of pre-pandemic pooled serum with the NTD-targeting antibody r4A8 (Chi et al., 2020) or RBD-targeting antibody rREGN10987 (Hansen et al., 2020). Antibodies were added to pre-pandemic serum at 50 µg/mL. The x-axis indicates the dilution factor of the serum+antibody mix, and the y-axis is the ELISA reading at each dilution. Source: 10.1101/2020.12.31.425021

Please check the product details page for more images. Overall 4 images are available for ABIN6952716.