MagIso™ Anti-MERS-CoV Spike Protein S1 Magnetic Particles Immunoprecipitation (IP) Kit

Catalog Number: WHK-SN003

Please read this instruction manual carefully before using the product

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Product Contents

Contents	Package 1	Package 2	Storage
Anti-CoV Spike glycoprotein Immunomagnetic Beads[1 3]	1 mL	5 mL	2-8°C for 12 months
NP40 Cell Lysis Buffer	4 mL	22 mL	-20°C for 12 months
5×TBST（pH7.4）	Required but not supplied		
1×TBST（pH7.4）	Required but not supplied		
ddH_2O	Required but not supplied		
Alkaline Elution Buffer	3 mL	15 mL	2-8°C for 12 months
Acidity Elution Buffer	3 mL	15 mL	2-8°C for 12 months
Neutralization Buffer	2 mL	8 mL	2-8°C for 12 months

[1] The IP KIT contains anti-CoV Spike glycoprotein Immunomagnetic Beads(2 mg/mL) in phosphate buffered saline (PBS, pH 7.4) with sodium azide (0.1%).
[2] The Magnetic Separator is required.
[3] Immunomagnetic Beads kits are shipped at ambient temperature in which immunomagnetic beads are provided in liquid buffer.

Product Description

The Anti-CoV Spike glycoprotein Immunomagnetic Beads, conjugated with Anti-CoV Spike glycoprotein antibody, are used for immuneprecipitation (IP) of CoV Spike glycoprotein proteins which expressed in vitro expression systems and bacterial and mammalian cell lysates.

For IP, the beads are added to a sample containing CoV Spike glycoprotein proteins to form a bead-protein complex. The complex is removed from the solution manually using a Magnetic Separator. The bound CoV Spike glycoprotein proteins are dissociated from the Immunomagnetic Beads using an elution buffer.

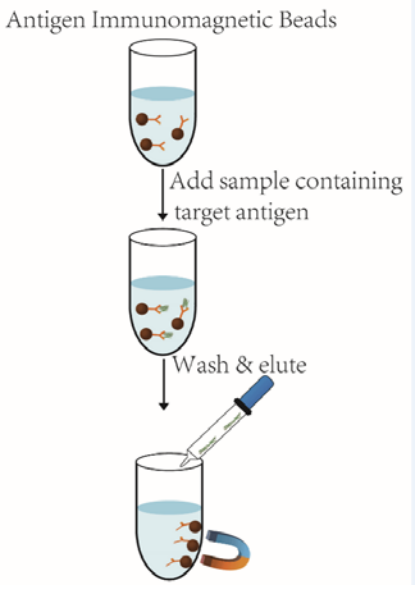

Fig. 1 Immunoprecipitation (IP) Protocol

Antibody Information

Antibody: MERS-CoV (NCoV / Novel coronavirus) Spike Protein S1 Antibody (C-terminal), Rabbit PAb, Antigen Affinity Purified
Immunogen: A synthetic peptide corresponding to the C-terminus of the S1 subunit of MERS-CoV (NCoV / Novel coronavirus) spike glycoprotein (S protein).
Clone ID:
Isotype: Rabbit IgG
Specificity: The antibody reacts with S1 subunit of MERS-CoV (NCoV / Novel coronavirus) Spike protein (S protein) and full-length S protein
Guaranteed Applications: IP, Minimum Protein Purification
Preparation: Produced in rabbits immunized with purified, a synthetic peptide corresponding to the C-terminus of the S1 subunit of MERS-CoV (NCoV / Novel coronavirus) spike glycoprotein (S protein), and purified by antigen affinity chromatography.

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Protocol

The protocol (Fig. 1) uses 50 µL Anti-CoV Spike glycoproteinImmunomagnetic Beads, but this can be scaled up or down as required.

Cell Lysis

Cells may be lysed using any standard cell lysis protocol in accordance with your starting materials. We suggest using NP40 Cell Lysis Buffer (supplied with kit).

Immunoprecipitate Target Antigen

1. Add 50 µL of Immunomagnetic Beads into a 1.5 mL microcentrifuge tube.
2. Add 150 µL of 1×TBST buffer to the Immunomagnetic Beads and gently vortex to mix.
3. Place the tube into a Magnetic Separator to collect the beads against the wall side of the tube. Remove and discard the supernatant.
4. Add 1 mL of 1×TBST buffer to the tube. Invert the tube several times or gently vortex to mix for 1 min. Collect Immunomagnetic Beads with a Magnetic Separator. Remove and discard the supernatant.
5. Add the sample containing target protein (~100 µg of protein in 100 µL) to the pre-washed Immunomagnetic Beads, add 400 µL of 1×TBST buffer and incubate at room temperature for 30 min with mixing.
6. Collect the Immunomagnetic Beads with a Magnetic Separator, remove the unbounded sample and save for analysis.
7. Add 300 µL of 5×TBST buffer to the tube and gently mix. Collect the Immunomagnetic Beads and discard the supernatant. Repeat this wash twice.
8. Add 300 µL of ddH_2O to the tube and gently mix. Collect the Immunomagnetic Beads on a Magnetic Separator and discard the supernatant.

Elute Target Antigen.

A. Alkaline Elution Protocols

1. Add 100 µL of Alkaline Elution buffer to the tube.
2. Gently vortex to mix and incubate the sample at room temperature on a rotator for 5 min.
3. Magnetically separate the Immunomagnetic Beads and save the supernatant containing the target antigen.
4. To neutralize the sample, add 50 µL of Neutralization Buffer for each 100 µL of eluate.

B. Acidity Elution

1. Add 100 µL Acidity Elution Buffer.
2. Gently vortex to mix and incubate the sample at room temperature on a rotator for 5-10 min.
3. Magnetically separate the Immunomagnetic Beads and save the supernatant containing the target antigen.
4. To neutralize the low pH, add 15 µL of Neutralization Buffer for each 100 µL of eluate.

C. Elution Using Sample Buffer

1. Add 100 µL of SDS-PAGE sample buffer to the tube.
2. Gently vortex to mix and incubate the sample at 95-100^{o}C for 5-10 min.
3. Magnetically separate the Immunomagnetic Beads and save the supernatant containing the antigen.

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Trouble Shooting

Problem	Possible Cause	Solution
Little or no protein is detected	Protein degraded	Include protease inhibitors (PMSF) in the
		Use new lysate or lysate stored at -80°C
	No or minimal protein was expressed	Verify protein expression by SDS-PAGE or Western blot
		Analysis of the lysate using an positive control as a
		Increase the amount of lysate used for IP/Co- IP
		Use a more sensitive detection

Problem	Possible Cause	Solution
Magnetic Beads aggregated	Magnetic Beads were frozen or centrifuged	Handle the Beads as directed in the instructions
	Buffer was incompatible with magnetic beads	
	Detergent was not added to the wash and bind solutions	
Failure to co-IP interacting protein	Wash conditions were too stringent for the weak or transient interaction	Reduce the number of washes
		Lower the ionic strength of the wash buffer
	Interacting protein was expressed at a low level	Apply additional protein sample
		Use a more sensitive detection system
	Buffer system was not optimal for the protein: protein interaction	Optimize the co-IP buffer
	Insufficient sample was loaded on the gel for Western blot detection	Elute sample in 30% acetonitrile 0.5% formic acid, then
		Bring the sample back up in SDS-PAGE Sample Buffer and load entire elution fraction on

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