Omnimabs® Anti-GST Magnetic Beads

Package List

Name	Catalog No.	Package
Anti-GST Magnetic Beads	OM760023	1mL
Anti-GST Magnetic Beads	OM760023	5mL

Product Overview

Omnimabs® Anti-GST Magnetic Beads are 200nm nanomagnetic beads covalently conjugated with high-quality mouse anti-GST monoclonal antibodies. The nanoscale beads provide ultra-large specific surface area with more binding sites, requiring less bead usage and lower nonspecific adsorption. This product is widely used for immunoprecipitation (IP) or co-immunoprecipitation (Co-IP) of GST-tagged fusion proteins in samples such as cell lysates, cell culture supernatants, sera, and ascites. Magnetic separation reduces IP/Co-IP time by 40%.

Product Features

Matrix	Silica-based Magnetic Beads
Ligand	Mouse Anti-GST Monoclonal Antibody
Particle Size	200nm
Bead Concentration	10mg/mL
Binding Capacity	≥0.6mg GST-tagged Protein/mL Beads
Applications	IP, Co-IP, etc.
Shelf Life	Stable for 2 years at 2-8℃

Protocol

Note: Prepare buffers yourself or purchase our IP Kit directly.

Adherent Cell Samples:

1. Remove culture medium and wash cells twice with PBS.
2. Collect cells into 1.5mL EP tube, add IP Lysis/Wash Buffer in appropriate ratio with PMSF and other inhibitors, mix, and incubate on ice for 5-20min (mix several times).
3. Centrifuge at 12,000-16,000xg for 10min at 4℃, collect supernatant, keep on ice for subsequent use (or store at -80℃).

Recommended IP Lysis/Wash Buffer Volume for Culture Dishes:

Culture Dish Size/Area	IP Lysis/Wash Buffer Volume
100mm x 100mm	500-1000μL
100mm x 60mm	100-300μL
6-well Plate	100-200μL

Suspension Cell Samples:

1. Collect cells by centrifugation at 500-1000xg for 10min at 4℃, discard supernatant.
2. Wash cells once with PBS: resuspend cell pellet in PBS, centrifuge at 500-1000xg for 5min at 4℃, discard supernatant.
3. Resuspend cells in pre-cooled IP Lysis/Wash Buffer (500μL per 50mg cells). Add PMSF and other inhibitors, mix, and incubate on ice for 5-20min (mix several times).
4. Centrifuge at 12,000-16,000xg for 10min at 4℃, collect supernatant, keep on ice for subsequent use (or store at -80℃).

Serum Samples:

Dilute serum samples with IP Lysis/Wash Buffer to target protein concentration of 50-150μg/mL, keep on ice (or store at -20℃).

Immunoprecipitation:

Note: Resuspend beads thoroughly by inversion or gentle vortex before use.

1. Add 20-50μL Omnimabs® Anti-GST Magnetic Beads into 1.5mL centrifuge tube.
2. Add 500μL pre-cooled PBS, mix gently.
3. Place tube on magnetic rack to collect beads, remove supernatant.
4. Add 200-500μL IP Lysis/Wash Buffer, invert tube several times or vortex gently for 1min. Collect beads with magnetic rack, remove supernatant.
5. Add GST-tagged protein sample into bead-containing tube, mix and incubate at room temperature for 1-2h or 4℃ for 2-4h.
6. Collect beads with magnetic rack, remove unbound sample, save for analysis.
7. Add 1000μL IP Lysis/Wash Buffer, mix beads gently for 5-10min. Collect beads, discard supernatant. Repeat washing twice.
8. Denaturing Elution: Add 80-100μL SDS-PAGE Sample Loading Buffer (1×), heat at 100℃ for 10min. Separate beads with magnetic rack, collect supernatant containing target antigen.

Note: For native protein elution, use Low pH Elution: Add 100μL Elution Buffer, mix and incubate at room temperature for 5-10min. Separate beads, collect supernatant. Neutralize with 20μL Neutralization Buffer per 100μL eluate.

Cautions

1. Read this protocol carefully before use.
2. Avoid high-speed centrifugation, drying, or freezing beads, which cause aggregation and reduce binding capacity.
3. Antibody-antigen binding affinity varies between different antibody types and is affected by IP Lysis/Wash Buffer. Optimize buffers or protocols as needed.
4. Resuspend beads thoroughly before use. Store beads in storage solution to prevent drying.
5. For research use only.

Troubleshooting

1. Antigen not precipitated

① Insufficient antigen in sample

Solution: Verify protein expression/lysis efficiency by SDS-PAGE or Western blot. Increase sample volume if needed.

② Buffer components interfere with binding

Solution: Use alternative buffers (e.g., TBS with 0.5% CHAPS) for IP and washing.

2. Low protein yield

① Protein degradation

Solution: Add protease inhibitors.

② Insufficient beads used

Solution: Increase bead amount for immunocomplex capture.

③ Low target protein in sample

Solution: Increase antigen sample volume.

3.Multiple nonspecific bands

Nonspecific protein binding to beads

Solution: Add 50-350mM NaCl to IP Lysis/Wash Buffer. Increase elution stringency and washing frequency.

4.Bead aggregation

Normal aggregation in low pH Elution Buffer

Solution: Neutralize with IP Lysis/Wash Buffer, then resuspend in Tris buffer (pH7.5) with 0.1% Tween-20. Sonicate in water bath (does not affect binding efficiency). Add 0.1% non-ionic detergent (e.g., Tween-20, Triton X-100) to prevent aggregation. Note: Sonication may cause antibody detachment, avoid before elution.