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Glutathione Magnetic Agarose Beads

1 Contents

Product Name	HY-K0234-1 mL	HY-K0234-5 mL	HY-K0234-25 mL
Glutathione Magnetic Agarose Beads (Settled Beads)	1 mL	5 mL	5 mL× 5

2 General Information

MCE Glutathione Magnetic Agarose Beads are based on magnetic cross-linked agarose, effectively purify high levels of overexpressed GST-tagged fusion proteins at a variety of scales. MCE Glutathione Magnetic Agarose Beads have high protein-binding capacity and stability, making it ideal for high performance purification of GST-tagged fusion proteins expressed in E. coli, yeast, insect and mammalian expression systems.

Glutathione Magnetic Agarose Beads are removed from the solution manually by using a magnetic stand or autoatically by using an instrument. With high loading of GST-tagged protein and high specificity, Glutathione Magnetic Agarose Beads are also suitable for GST Pull-down.

3 Characteristics

Bead Diameter	30-100 μm
Binding Capacity	5-10 mg GST protein/mL Settled Beads
Application	Pull-down, Protein Purification
Storage Solution	20% slurry in a 20% ethanol solution

4 General Protocol

Two protocols are recommended according to further usage.

4.1 GST-tagged Protein Purification

Recommended Buffer

Binding/Wash Buffer	PBS: 140 mM NaCl, 2.7 mM KCl, 10 mM Na_2HPO_4, 1.8 mM KH_2PO_4, pH 7.4
Elution Buffer	50 mM Tris-HCl, 10-20 mM GSH, pH 8.0

(1) Preparation of Magnetic Agarose Beads

a. Resuspend the Glutathione Magnetic Agarose Beads in the vial (tilt and rotate for 2 minutes or gently pipette for 10 times, do not vortex). Transfer appropriate amount of Glutathione Magnetic Agarose Beads into a new tube.

b. Add appropriate amount of Binding/Wash Buffer to the beads and gently pipette to mix. Place the tube into a magnetic stand to collect the beads against the side of the tube. Remove and discard the supernatant. Repeat this step for 2 times.

(2) Protein Binding

a. Add appropriate amount of cell lysate (the sample containing GST-tagged protein) to the washed beads and incubate for 30 minutes at room temperature or 4ºC at 1 hour while gently rotating the tube.

b. Place the tube into a magnetic stand to collect the beads against the side of the tube. The supernatant was collected in a new centrifuge tube for subsequent detection.

(3) Washing

Add 2× beads-volumes of Binding/Wash Buffer to the beads complex and mix gently. Place the tube into a magnetic stand to collect the beads against the side of the tube. Remove and discard the supernatant. Repeat this step for 2 times.

(4) Elution

Add 3-5× beads-volumes of Elution Buffer to each tube. Incubate with gentle shaking or on a rotator for 5-10 minutes at room temperature. Place the tube into a magnetic stand to collect the beads and transfer the supernatant to a new tube.

4.2 GST Pull-Down

Recommended Buffer

Binding/Wash Buffer	PBS: 140 mM NaCl, 2.7 mM KCl, 10 mM Na_2HPO_4, 1.8 mM KH_2PO_4, pH 7.4
Elution Buffer	50 mM Tris-HCl, 10-20 mM reduced glutathione, pH 8.0

(1) Preparation of Magnetic Agarose Beads

a. Resuspend the Magnetic Agarose Beads in the vial (tilt and rotate for 2 minutes or gently pipette for 10 times, do not vortex). Transfer 100 μL of Glutathione Magnetic Agarose Beads into a new tube.

b. Add 500 μL Binding/Wash Buffer to the beads and gently pipette to mix. Place the tube into a magnetic stand to collect the beads against the side of the tube. Remove and discard the supernatant. Repeat this step for 2 times.

(2) Binding of GST-tagged Protein

a. Add 500 μL of the sample containing GST-tagged protein to the washed beads and incubate for 30 minutes at room temperature or 4ºC at 1 hour while gently rotating the tube. Place the tube into a magnetic stand to collect the beads against the side of the tube. Remove and discard the supernatant.

b. Add 1 mL Binding/Wash Buffer to the beads complex and mix gently. Place the tube into a magnetic stand to collect the beads against the side of the tube. Remove and discard the supernatant. Repeat this step for 2 times.

(3) Binding of Target Protein

a. Add 500 μL of the target protein to the tube and incubate for 30 minutes at room temperature while gently rotating the tube. Place the tube into a magnetic stand to collect the beads against the side of the tube. Remove and discard the supernatant.

b. Add 1 mL Binding/Wash Buffer to the tube and mix gently. Place the tube into a magnetic stand to collect the beads against the side of the tube. Remove and discard the supernatant. Repeat this step for 2 times.

(4) Elution

Add 3-5× beads-volumes of Elution Buffer to each tube. Incubate with gentle shaking or on a rotator for 5-10 minutes at room temperature. Place the tube into a magnetic stand to collect the beads and transfer the supernatant to a new tube.

5 Storage

Store at 2-8ºC, and is stable for up to 2 years.

6 Precautions

(1) Do not centrifuge, dry or freeze the magnetic agarose beads.

(2) To minimize protein degradation, protease inhibitor cocktails (MCE Cat. No.: HY-K0010, HY-K0011) are highly recommended.

(3) For the best experimental performance, it is recommended to use the MCE magnetic stand (Cat. No.: HY-K0200).

(4) If the target protein is not completely eluted, it may be due to the oxidation of reduced glutathione in Elution Buffer. So it is recommended to use a freshly prepared Elution Buffer.

(5) Adding 1-10 mM DTT to samples and buffers can improve the binding of GST fusion proteins to magnetic agarose beads.

(6) This product is for R&D use only, not for drug, house hold, or other uses.