Magrose Heparin

Cat: M2330

Specification: 5ml /2*50ml

Storage: 2-30℃, (long-term storage is recommended 2~8℃, valid for 2 years).

Product Information:

The product name	Beads Magrose Heparin
Magnetic bead size range	30~150 μm
Content surface molecules	~3 mg Heparin/mL Gel
The amount of protein binding 1	2~3 mg antithrombase III /mL Gel
Preservation solution	20% Ethyl Alcohol
The suspension concentration was 2	10%（V/V）Magnetic bead suspension
Binding Buffer	50 mM Tris-HCl, pH 8.0
Elution Buffer	50 mM Tris-HCl, 1~2 M NaCl, pH 8.0

Note:

1. The amount of protein associated with the target protein features, here are for reference only.
2. Each 1 mL magnetic beads suspension contained 100 μL of magnetic beads.

Introduction:

Magrose Heparin beads are characterized by rapid magnetic responsiveness, abundant heparin density, and extremely high physicochemical stability. On the one hand, can be used as ligands of affinity chromatography, and growth factors, antithrombin AT III specificity combined with biological molecules, such as occurrence; On the other hand, due to the large number of negatively charged sulfate ion groups on the surface, it can be used as a cation exchange medium and has a strong binding ability to positively charged proteins under certain pH conditions.

Compared with traditional column chromatography purification, Magrose Heparin magnetic beads don't need to crude protein sample preprocessing (such as: cumbersome centrifugal repeatedly, laborious filtering operation), in addition, don't need to control the flow velocity and the pressure, don't need expensive chromatography equipment. For skilled operators, in a short time can finish the high purity of target protein extraction, and can easily implement multiple samples of parallel processing, realize high-throughput protein purification.

Applicable to the anti-clotting factors III, clotting factors, nucleic acid binding protein, lipoprotein, interferon, steroid receptor, thrombin and biological macromolecular separation and purification of thrombin.

Products Advantages:

1. Rich binding sites, combined with the specificity of the ligand.
2. Magnetic response speed, reduce the operation time.
3. Magnetic beads with good dispersion and suspension, improve the convenience of the operation.
4. The ligand has good physical and chemical stability, which improves the reliability and repeatability of the experimental results.

Operation process (The purification of antithrombin III from human plasma was taken as an example)

1. **Sample treatment:** Take 1 mL of human plasma and add it to 1.5 mL EP tube, then add 500μL Binding Buffer and mix thoroughly.
2. **Magnetic beads pretreatment:** The Magrose Heparin magnetic bead vortex was oscillated for 30 s to make the magnetic bead fully suspended. Take 1 mL 10% (V/V) magnetic bead suspension and place it in another new 1.5 mL EP tube. Magnetic separation was performed on the magnetic bead suspension, and the supernatant was discarded and washed twice with 1 mL Binding Buffer for magnetic separation. The magnetic bead in the tube could be directly used for antibody separation.
3. **Protein adsorption:** The sample solution processed in step 1 was added to the magnetic bead tube pretreated in step 2, and the vortex was shaken evenly. At room temperature (about 25°C), the EP tube was placed in a vertical mixer and mixed for 15~30 min, so that the sample and magnetic bead were fully contacted and

adsorbed, and then magnetic separation was performed, and the supernatant was discarded.

4. **Magnetic bead washing:** 1 mL Binding Buffer was added to the EP tube, the magnetic bead was suspended for 1 min after swirling oscillation, and the supernatant was removed. Repeat this operation three times.

Note: according to the elution protein SDS-PAGE map, in Binding Buffer can be appropriately to join a certain concentration of NaCl, this step can be effective to unless specific protein adsorption, make the operator for higher concentration of the target protein.

5. **Protein Elution:** 0.2 mL Elution Buffer was added to the above EP tube after magnetic bead washing, and then the EP tube was quickly resuspended by pipetting or vortex shaking. Then the EP tube was placed in a vertical mixer for mixing at room temperature (about 25℃) for 10-15 min, and the magnetic separation was performed.
6. **Magnetic bead regeneration:** 1 mL purified water was added to the EP tube, the magnetic beads were resuspended by vortex oscillation and magnetic separation was carried out. The supernatant was removed and the operation was repeated for 3 times. Then switch to the Binding Buffer washing magnetic beads 3 times. After repeated use magnetic beads are precipitated protein, strong hydrophobic impurities such as protein, lipoprotein nonspecific adsorption onto magnetic beads, in order to ensure the use efficiency of magnetic beads, in-place cleaning is recommended (CIP).
7. **In-place cleaning (CIP):** use 0.1M NaOH, 8M urea, purified water, Binding Bufdfer washing magnetic beads 2 times; Finally, 1 mL Storage Buffer(20% ethanol) was added and the magnetic beads were stored at 2-8 ℃.

Product application example:

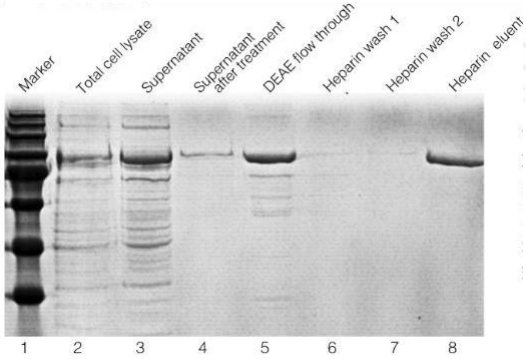

Figure 1. SDS-PAGE of purified nucleic acid protein by heparin agarose magnetic beads

Figure 1 shows that Magrose Heparin magnetic beads can specifically bind nucleic acid-related proteins, and with DEAE ion exchange chromatography, high-purity target proteins can be obtained (lane 8). And the purification recovery was higher than that of nucleic acid-related proteins obtained by heat treatment (lane 4).

Note:

1. This product should not be frozen, dry or centrifugal operation. Freezing and drying, and centrifugal operation will cause magnetic beads together, is not easy to hang and dispersed, and affects the chemical activity of the magnetic bead surface functional groups.
2. Before using this product, please be sure to fully oscillation or ultrasonic keep magnetic beads uniform state of suspension.
3. According to the requirements in use process, with purified water or buffer magnetic suction washing magnetic beads 2 ~ 3 times, to remove ethanol preservation solution.
4. This product should be used with magnetic separation equipment.
5. Salt concentration and pH value will influence the combination of specific proteins and elution, customers need to grope for the combination of different protein and elution conditions, to ensure the purity and quantity of the protein purification.
6. The product information is for reference only. If you have any questions, please call 400-968-6088 for consultation.
7. The products are all for scientific research use only. Do not use it for medical, clinical diagnosis or treatment, food and cosmetics, etc. Do not store them in ordinary residential areas.
8. For your safety and health, please wear laboratory clothes, disposable gloves and masks to operate.