



UltraBio™ Anti-MBP Agarose

U1508192

Storage: 2-8°C. Do not freeze.

Shipping: Shipped with ice packs. Please store under the specified storage conditions immediately upon receipt.

Size: 250 µL/500 µL/2.5 mL.

Introduction

Aladdin's UltraBio™ Anti-MBP Agarose is produced by high-quality MBP antibodies to 4% agarose gel. These agarose can specifically bind MBP fusion proteins in lysates, serum, ascites, or other samples from animals, plants, or microorganisms. This product is mainly used for immunoprecipitation (IP), co-immunoprecipitation (Co-IP), or purification of MBP-tagged proteins or their protein complexes. Maltose binding protein (MBP) encoded by the malE gene is a component of the E. coli maltose/maltodextrin system and regulates the uptake and catabolism of maltodextrins, with a molecular weight of approximately 42 kDa. The MBP tag can be fused to the N- or C-terminus of a protein, with the N-terminus being the most common fusion site. The MBP tag has several advantages: 1. Increased solubility of heterologous proteins. 2. Wide applicability in different hosts/systems. 3. Facilitation of proper protein folding. 4. High specificity allowing for mild and convenient purification. 5. Versatile tool for downstream analysis: Following fusion, the expression, localization, and function of the target protein can be analyzed, or the protein can be purified, immunoprecipitated (IP), or co-immunoprecipitated (Co-IP) using MBP-specific antibodies or Anti-MBP Agarose gel.

Aladdin UltraBio™ Anti-MBP Agarose is stored in PBS containing 0.02% ProClin 300, with a settled gel to storage solution ratio of 1:1 (This product is a 50% gel suspension, containing 0.5 ml of settled agarose per milliliter. Our product specifications are based on total volume. Product information is detailed in the table below:

Parameter	Value/Description
Matrix	4% Agarose Microspheres
Ligand	MBP Tag Mouse mAb
Particle Size Range	45~165 µm
Binding Capacity	>2 mg MBP-tagged protein/mL Agarose
Maximum Pressure	0.3 MPa, 3 bar
Storage Conditions	0.01M PBS contains 0.02% ProClin 300, 2-8°C
Shelf Life	1 year

Instruction for use

1. Sample Preparation

Web: <https://www.aladdinsci.com>

- 1.1 Ensure the sample solution has appropriate ionic strength and pH before loading. Dilute the sample or cell culture supernatant with equilibration buffer, or dialyze the sample against equilibration buffer.
- 1.2 Clarify the sample by centrifugation or filtration through a 0.22 μm or 0.45 μm membrane to reduce impurities, improve purification efficiency, and prevent column clogging.
- 1.3 Preparation of protein sample. Lysis cells or tissues with appropriate lysis buffer, when using a self-prepared lysis buffer or one produced by other companies, ensure that the pH of the lysis buffer is 6-8.

2. Buffer Preparation

It is recommended to filter buffers through a 0.22 μm or 0.45 μm membrane before use.

Equilibration Buffer: 0.01 M PBS, pH7.4;

Wash Buffer: 0.01 M PBS, 0.05% Tween-20, pH7.4;

3. Immunoprecipitation (IP) Procedure

- 3.1 Resin Preparation: Add 40 μL of Anti-MBP Agarose suspension (20 μL settled agarose) to a 1.5 mL tube. Centrifuge at $5,000 \times g$ for 1 min. Discard the supernatant.
- 3.2 Add 0.5 mL of Equilibration Buffer to resuspend the agarose (Place the agarose in the same buffer system as the target protein to protect the protein). Centrifuge at $5,000 \times g$ for 1 min. Discard the supernatant. Repeat this wash step once.
- 3.3 Add 300 μL of sample lysate to the prepared agarose from step 3.2. Mix and incubate on a tube rotator at room temperature for 3 hours. Centrifuge at $5,000 \times g$ for 1 min. Discard the supernatant.
- 3.4 Washing: Add 0.5 mL of Wash Buffer, resuspend the agarose, and mix gently. Centrifuge at $5,000 \times g$ for 1 min. Discard the supernatant. Repeat this wash step three more times. Ensure the removal of non-specifically adsorbed substances.
- 3.5 Denaturing Elution (SDS-PAGE): Add 100 μL of $1\times$ Loading Buffer to the agarose. Heat at 95°C for 5 min. Centrifuge at $5,000 \times g$ for 1 min, and load the supernatant directly onto an SDS-PAGE gel for analysis. **Note:** The Standard loading buffer used in laboratories contains β -mercaptoethanol and DTT, which can break the disulfide bonds between the antibody heavy and light chains on the agarose. This method denatures the antibody, rendering the resin unusable for reuse.

Storage

Store at 4°C for up to 12 months. Do not store at -20°C or lower temperatures.

Matters needing attention

1. This product must be fully resuspended by inverting the tube several times prior to use.
2. For immunoprecipitation assays, it is recommended to include both positive and negative controls.
3. Protein samples should be purified as soon as possible after collection and should always be placed at 4°C or on ice to minimize protein degradation or denaturation.
4. The non-specific binding capability of this product can be affected by high concentrations

of DTT, mercaptoethanol, and guanidine hydrochloride, but it is applicable in Cell lysis buffer for Western and IP, RIPA Lysis Buffer, and NP-40 Lysis Buffer.

5. To effectively inhibit protein degradation, an appropriate amount of protease inhibitor cocktail can be added to the protein sample.
6. This product is for R&D only. Not for drug, household, or other uses.
7. For your safety and health, please wear a lab coat and disposable gloves during the operation.

A large, light blue, semi-transparent watermark of the Aladdin logo is oriented diagonally across the center of the page. It includes the stylized "a" and "l" with the yellow/orange graphic and the registered trademark symbol.