Product Information

Anti MBP-Magnetic beads

For purification of MBP-tagged proteins expressed in bacterial and mammalian cell lysates

SAE0218

Storage Temperature 2-8 °C

Synonyms: Anti Maltose binding Protein, MBP antibody, MBP epitope Tag, MBP TAG antibody, Anti-MBP antibody produced in mouse

Product Description

In situations where protein-specific antibodies are unavailable, epitope tags enable researchers to study protein topology, characterize and identify new proteins, protein complexes, and associated proteins, even if the proteins of interest are in low abundance or are poorly immunogenic.[1-4]

Monoclonal Anti-Maltose binding protein (mouse IgG1 isotype) is derived from the hybridoma MBP-17 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a purified recombinant MBP fusion protein. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents. Monoclonal Anti-Maltose Binding Protein recognizes native, as well as denatured-reduced, forms of purified MBP or MBP fusion proteins.

Maltose binding protein (MBP) is a periplasmic binding protein that is important for nutrient uptake and chemotaxis of *Escherichia coli.*

Maltose binding protein (MBP) tag creates a stable fusion product, that does not appear to interfere with the bioactivity of the protein or with the biodistribution of the MBP tagged product. It facilitates the detection, isolation and purification of the proteins. [5,6]

The expression of polypeptides in-frame with maltose binding protein (MBP) allows for their easy purification from bacterial extracts under mild conditions, which employ a single affinity chromatographic step on amylose resin.[1]

Anti-MBP Magnetic beads is prepared with an affinity purified anti-Maltose binding Protein (MBP) antibody, produced in mouse (M1321). The antibody is conjugated to cyanogen bromide-activated agarose Magnetic beads at a ~2 mg/mL protein to beads ratio.

Anti-MBP magnetic beads is useful in the purification of an MBP fusion protein in bacteria or in cells and tissues transfected with a MBP fusion protein expressing vectors. Monoclonal Anti-MBP recognizes specifically a MBP tagged fusion proteins expressed in transfected mammalian cells or produced by *in vitro* translation.

Reagent

The Anti MBP-Magnetic beads product is provided as suspension containing 50% Beads, in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM Sodium azide as a preservative.

Precautions And Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Product Profile

- Binding capacity: 20-62 nmole of MBP-tagged fusion protein per 1 mL of settled resin.
- Elution capacity: 5-62 nmole/mL settled resin.

Storage/Stability

For continuous use and extended storage, store at 2 °C to 8 °C. Do not freeze.

General Notes

- To ensure homogeneity, mix the beads thoroughly before use by repeated inversion, gentle vortexing, or using a rotating platform.
- The following General Procedure is written for use of 20 µL of the anti-MBP magnetic agarose beads, and an estimated bead capacity of 100 µg of recombinant MBP protein.
- Our suggestion is to add enough cell lysate where 100 µg of the MBP-tagged protein is expected to be present.
- Each sample will differ, depending on the individual researcher's system, and determination or estimation of the degree of MBP tagged protein in the lysate sample.
- A method like SDS-PAGE analysis can be performed on an aliquot of the lysate, with estimated quantitation of lysate protein bands against known amounts of defined protein standards in a separate gel lane.

Procedure

To ensure homogeneity, mix the beads thoroughly before use by repeated inversion, gentle vortexing or using a rotating platform.

1. Prewashing: Add 20 µL of Anti MBP-Magnetic beads into a 1.5 mL microcentrifuge tube.
2. Place the tube into a magnetic stand to collect the beads against the side of the tube.
3. Remove and discard the supernatant. Wash with 200 mL PBS, repeat washing 3-5 times.
4. Apply the sample which contains the estimated amount of 100 µg MBP tagged protein. Gently pipette mix. Incubate for 60 min at 37 °C using a rotating platform.
5. Save the flowthrough for calculating the binding capacity.
6. Wash with PBS until the absorbance at 280 nm is minimal.
7. Elution of MBP tagged proteins may be done by incubation with 80 mL sample buffer X1 for 5 min at 95 °C.

General Notes

- To obtain the best results in different techniques and preparations, we recommend on determining optimal working concentration by titration test.
- Binding capacity and elution capacity may vary, depending on the characteristics of the MBP-tagged fusion proteins. For optimal results, it is recommended to try different elution buffers.

References

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5. Guan, C., et al., Gene, 67, 21-30 (1988).2. Maina, C.V., et al., Gene, 74, 365-373 (1988).
6. Jarvik, W., and Telmer, C.A., Annu. Rev. Genet., 32, 601-618 (1998).

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