SANTA CRUZ BIOTECHNOLOGY, INC.

MBP-probe (C-18): sc-808

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Plasmid vectors for the expression of coding regions of eukaryotic genes in bacterial, insect and mammalian hosts are in common usage; such expression vectors frequently encode hybrid fusion proteins consisting in part of prokaryotic and in part, eukaryotic specified proteins. One such system utilizes maltose binding protein (MBP), the 370 amino acid product of the *E. coli* mal E gene. Plasmid vectors have been constructed utilizing the MBP domain that allow the synthesis of high levels of MBP-fusion proteins that can be purified in a one step procedure by affinity chromatography cross linked amylose resin. Once bound to amylose, the MBP protein can then be separated from the target protein by cleavage by coagulation Factor Xa at a specific four residue site. Alternatively, the intact fusion protein can be specifically eluted from the resin by the addition of excess free maltose. Subsequent to elution, MBP fusion protein can be visualized either by Western blot analysis or immunoprecipitation using antibodies specific for the MBP-tag. Expression systems utilizing the MBP fusion tag include pCG-806fx and pMal vectors.

REFERENCES

1. Maniattis, T., et al. 1982. Molecular cloning. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.
2. Duplay, P., et al. 1984. Sequences of the malE gene and of its product, the maltose-binding protein of *Escherichia coli* K12. J. Biol. Chem. 259: 10606-10613.
3. Guan, C.D., et al. 1988. Vectors that facilitate the expression and purification of foreign peptides in *Escherichia coli* by fusion to maltose-binding protein. Gene 67: 21-30.

SOURCE

MBP-probe (C-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within the C-terminal domain of MBP.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MBP-probe (C-18) is available conjugated to agarose (sc-808 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-808 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

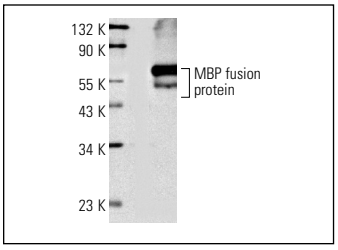
MBP-probe (C-18) is recommended for detection of pMal expression vector-encoded MBP fusion proteins by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of MBP-probe: 40 kDa.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required

DATA



MBP-probe (C-18): sc-808. Western blot analysis of MBP-tagged fusion protein.

SELECT PRODUCT CITATIONS

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2. Swanson, P., et al. 1999. RAG-2 promotes heptamer occupancy by RAG-1 in the assembly of a V(D)J initiation complex. Mol. Cell. Biol. 19: 3674-3683.
3. Zhang, Y.H., et al. 2003. Recombinant apoptin multimers kill tumor cells but are nontoxic and epitope-shielded in a normal-cell-specific fashion. Exp. Cell Res. 289: 36-46.
4. Li, W., et al. 2007. RLE-1, an E3 ubiquitin ligase, regulates *C. elegans* aging by catalyzing DAF-16 polyubiquitination. Dev. Cell 12: 235-246.
5. Ohneda, K., et al. 2009. Characterization of a functional ZBP-89 binding site that mediates Gata1 gene expression during hematopoietic development. J. Biol. Chem. 284: 30187-30199.
6. Darlyuk-Saadon, I., et al. 2012. The bZIP repressor proteins, c-Jun dimerization protein 2 and activating transcription factor 3, recruit multiple HDAC members to the ATF3 promoter. Biochim. Biophys. Acta 1819: 1142-1153.
7. Lu, C., et al. 2015. An autoregulatory mechanism imposes allosteric control on the V(D)J recombinase by histone H3 methylation. Cell Rep. 10: 29-38.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.