

Product Information

Anti-SmB antibody, Mouse monoclonal

clone 12F5, purified from hybridoma cell culture

S0698

Product Description

Anti-SmB antibody (mouse IgG1 isotype) is derived from the hybridoma 12F5-H3.D8 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with an SmB recombinant protein (GeneID 6628). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (ISO2).

Anti-SmB antibody, Mouse monoclonal recognizes human, mouse, and dog SmB. The antibody may be used in various immunochemical techniques including ELISA, immunoblotting (~ 25 kDa), immunoprecipitation, and immunocytochemistry.

The excision of introns from the pre-mRNA of eukaryotic transcripts requires the action of a series of ribonucleoprotein (RNP) complexes comprising the spliceosome. Each of these complexes is centered on small RNA molecule, the UsnRNAs. The Sm protein family, consisting of seven polypeptides B/B', D1, D2, D3, E, F and G was found in association with the various spliceosomal m3G-capped UsnRNAs. The assembly of the Sm proteins into the complex is a critical step in the biogenesis of the UsRNPs and may also be involved in the splicing process itself.^{1, 2} A member of this family, SmB/SmB' represents isoforms encoded by alternatively spliced mRNAs from a single gene, SNRPB. They are identical except for the presence of an extra nine amino acids at the carboxyl terminus of the human specific B' form. SmB' has only been defined in human while SmB is in human and mouse.³ The SmB/SmB' proteins are expressed robustly in all human tissues except in postnatal brain and heart where they are replaced by SmN.

Interestingly, SmN and SmB' are 92.5% homologous at the amino acid level, and their amino-terminal sequence is identical.^{3, 4} Nevertheless, despite the homology between SmB/B' and SmN, systemic lupus erythematosus (SLE) antibodies discriminate between these polypeptides by binding an epitope restricted to SmB/B'.⁵

Reagent

Supplied as a solution in 0.01 M PBS, pH 7.4, containing 15 mM sodium azide as a preservative. Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is 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.

Storage/Stability

For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile Immunoblotting

A working antibody concentration of 0.5-1 mg/mL is recommended using HeLa nuclear cell extract.

Note: To obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Will, C.L., and Lürmann, R., *Curr. Opin. Cell Biol.*, 13, 290-301 (2001).
2. Zhang, D., et al., *Mol. Cell*, 7, 319-329 (2001).
3. Van Dam, A., et al., *EMBO J.*, 12, 3853-3860 (1989).
4. Sharpe, N.G., et al., *Mol. Cell. Biol.*, 103, 6817- 6820 (1990).
5. Huntriss, J.D., et al., *Clin. Exp. Immunol.*, 92, 263- 267 (1993).

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