Product Information

Anti-SATB1 Antibody, Mouse Monoclonal

Clone SAT-5, Purified from Hybridoma Cell Culture

SAB4200481

Product Description

Anti-SATB1 (mouse IgG2a isotype) is derived from the hybridoma SAT-5 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to a sequence at the N-terminus of human SATB1 (GeneID 6304), conjugated to KLH. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents (Cat. No. ISO2). The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Anti-SATB1 recognizes human, monkey, rat and mouse SATB1. The product may be used in several immunochemical techniques including immunoblotting (~ 100 kDa), immunocytochemistry, and flow cytometry. Staining of the SATB1 band in immunoblotting is specifically inhibited by the immunizing protein.

The chromatin architecture in the nucleus plays an important role in regulating gene expression.[1] The special AT-rich sequence-binding protein, SATB1, is one of the few proteins known to date to be involved in organizing higher-order chromatin structure including the subnuclear organization of individual genes within multigene clusters in a tissue specific manner, locally and at a distance.[2] It cooperates with promyelocytic leukemia protein (PML) to regulate global chromatin architecture by organizing chromatin into distinct loops via periodic anchoring of matrix attachment regions (MARs) in DNA to the nuclear matrix.[3] Furthermore, SATB1 recruits co-repressor complexes to its binding sites.[4] Recently, it was found that SATB1 is aberrantly expressed in human metastatic breast cancer and coordinately regulates the expression of sets of genes that promote breast cancer tumor growth and metastasis.[5-6] Its involvement in tumor progression has also been shown in colorectal, coetaneous malignant melanoma and lung cancers. Having such roles also indicate SATB1 as a possible prognostic marker.[7-9]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

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.

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 concentration of 2.0-4.0 µg/mL is recommended using Jurkat total cell extracts.

Flow Cytometry

A working concentration of 5-10 µg/test is recommended using THP-1 cells.

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

References

1. Spector, D.L., *Ann. Rev. Biochem.,* **72**: 573-608 (2003).
2. Cai, S., et al., *Nat. Genet.,* **34**: 42-51 (2003).
3. Galande, S., et al., *Curr. Opin. Genet. Dev.,* **17**: 408-414 (2007).
4. Purbey, P.K., et al., *Mol. Cell Biol.,* **29**: 1321-1337 (2009).
5. Han, H.J., et al., *Nature*, **452**: 187-193 (2008).
6. Laurinavicius, A., et al., *Diagn. Pathol*., **7**: 27-42 (2012).
7. Meng, W.J., et al., *Int. J. Colorectal Dis.,* **27**: 143- 150 (2012).
8. Chen, H., et al., *J. Dermatol. Sci.,* **64**: 39-44 (2011).
9. Selinger C.I., et al., *J. Thorac. Oncol.,* **6**: 1179- 1189 (2011).

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Standard Warranty

The applicable warranty for the products listed in this publication may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

SAB4200481dat Rev 06/21