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Product Information

Anti-Msi-1 (N-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200581**

Product Description

Anti-Msi-1 (N-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to an N-terminal sequence of human Msi-1 (GeneID: 4440), conjugated to KLH. The corresponding sequence is identical in rat and mouse Msi-1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Msi-1 (N-terminal) specifically recognizes human and rat Msi-1. The antibody may be used in several immunochemical techniques including immunoblotting (~39 kDa), immunofluorescence and immunohistochemistry. Detection of the Msi-1 band by immunoblotting is specifically inhibited by the Msi-1 immunizing peptide.

Musashi-1 (Msi-1) and Musashi-2 (Msi-2) are neural RNA-binding proteins that regulate the translation of target mRNAs.[1,2] Both Msi-1 and Msi-2 are highly expressed in neural stem/progenitor cells (NS/PCs) and are associated with maintenance and asymmetric cell division of neural stem cells.[1,2] Msi-1 binds to the 3'-UTR of its target mRNAs in NS/PCs, repressing their translation, and interfering with NS/PC differentiation thus maintaining NP/PCs in the undifferentiated state. Loss of Msi-1 function disrupts the balance between germ-line stem cell renewal and differentiation, causing premature differentiation. Msi-1 has been shown to regulate the Notch and Wnt signaling pathway. Upregulation of Msi-1 augments Notch signaling, via translational repression of the Notch signaling antagonist m-Numb, thereby inhibiting the differentiation of neural stem cells into neurons.[3] Msi-1 is also expressed in the nucleus during the early neural differentiation of mouse ESCs and found to act synergistically with Lin28 as a novel cofactor for the blockade of *let-7* family miRNA biogenesis.[4] Expression of Msi1- has been detected in several human cancers including brain tumors, suggesting its role in oncogenic development.[5]

Reagent

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

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 Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze 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 dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using extracts of SH-SY5Y cells.

Immunofluorescence: a working concentration of 5-10 µg/mL is recommended using HeLa cells.

Immunohistochemistry: a working concentration of 10-20 µg/mL is recommended using formalin-fixed, paraffin-embedded rat cerebellum.

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

References

1. Kaneko, Y., et al., *Dev. Neurosci.*, **22**, 139-153 (2000).
2. Sakakibara, S., et al., *Proc. Natl. Acad. Sci. USA*, **12**, 15194-15199 (2002).
3. Imai, T., et al., *Mol. Cell. Biol.*, **21**, 3888-3900 (2001).
4. Kawahara, H., et al., *J. Biol. Chem.,* **286**, 16121-16130 (2011).
5. Vo, D.T., et al., *Am. J. Pathol.*, **181**, 1762-1772 (2012).

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