PRODUCT INFORMATION

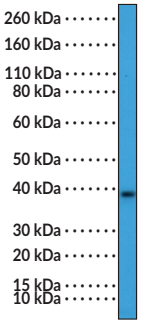
Musashi-2 Rabbit Monoclonal Antibody (Clone RM422)

Item No. 35315

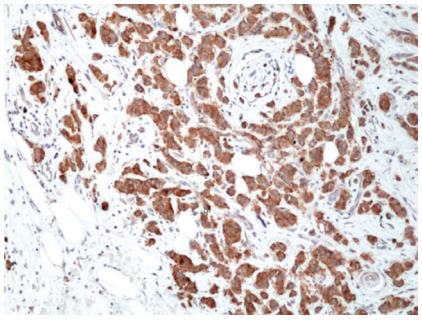
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	MSI2, RNA-Binding Protein Musashi Homolog 2
Immunogen:	Peptide from the internal region of Musashi-2
Cross Reactivity:	(+) Musashi-2
Species Reactivity:	(+) Human, mouse
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM422
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:400 for IHC and 1:100-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

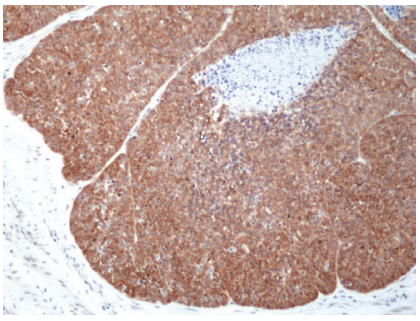
Images



WB of mouse brain tissue lysate using Musashi-2 Rabbit Monoclonal Antibody (Clone RM422) at a dilution of 1:2,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human breast ductal carcinoma tissue using Musashi-2 Rabbit Monoclonal Antibody (Clone RM422) at a dilution of 1:400.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human esophageal squamous carcinoma tissue using Musashi-2 Rabbit Monoclonal Antibody (Clone RM422) at a dilution of 1:100.

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Description

Musashi-2 is an RNA-binding protein that regulates target mRNA stability and translation.[1,2] It contains two RNA recognition motifs at its N-terminus that each contain two highly conserved core motifs, RNP-1 and RNP-2, and a C-terminal domain that is subject to alternative splicing to produce a short or long isoform of Musashi-2.[3,4] Musashi-2 is ubiquitously expressed and localizes to the nucleus and cytoplasm.[3-5] It is involved in the differentiation and self-renewal of stem cells, including embryonic, neural, and hematopoietic stem cells, as well as in the migration and proliferation of keratinocytes.[1,2] Knockdown of *MSI2*, the gene encoding Mushashi-2, induces cell cycle arrest at the G_1 phase and apoptosis in keratinocytes.[2] Chromosomal translocations leading to the fusion of *MSI2* with *HOXA9*, resulting in expression of Musashi-2-HOXA9 fusion proteins, are associated with chronic myeloid leukemia (CML).[4] Cayman's Musashi-2 Rabbit Monoclonal Antibody (Clone RM422) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Sutherland, J.M., McLaughlin, E.A., Hime, G.R., *et al*. The Musashi family of RNA binding proteins: Master regulators of multiple stem cell populations. *Transcriptional and translational regulation of stem cells*. Hime, G. and Abud, H., editors, *Springer* (2013).
2. Bennett, C.G., Riemondy, K., Chapnick, D.A., *et al*. Genome-wide analysis of Musashi-2 targets reveals novel functions in governing epithelial cell migration. *Nucleic Acids Res*. **44(8)**, 3788-3800 (2016).
3. Sakakibara, S., Nakamura, Y., Satoh, H., *et al*. RNA-binding protein Musashi2: Developmentally regulated expression in neural precursor cells and subpopulations of neurons in mammalian CNS. *J. Neurosci*. **21(20)**, 8091-8107 (2001).
4. Barbouti, A., Höglund, M., Johansson, B., *et al*. A novel gene, *MSI2*, encoding a putative RNA-binding protein is recurrently rearranged at disease progression of chronic myeloid leukemia and forms a fusion gene with *HOXA9* as a result of the cryptic t(7;17)(p15;q23). *Cancer Res*. **63(6)**, 1202-1206 (2003).
5. Sutherland, J.M., Sobinoff, A.P., Gunter, K.M., *et al*. Knockout of RNA binding protein MSI2 impairs follicle development in the mouse ovary: Characterization of MSI1 and MSI2 during folliculogenesis. *Biomolecules* **5(3)**, 1228-1244 (2015).

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