

MONOCLONAL ANTIBODY

# Biotin labeled Anti-Musashi-1/Msi1

Code No.	Clone	Subclass	Quantity	Concentration
D270-6	14H1	Rat IgG2a $\kappa$	100 $\mu$ L	0.5 mg/mL

**BACKGROUND:** Musashi-1 (Msi1) is a highly conserved RNA binding protein with important functions in stem cell maintenance, nervous system development and tumorigenesis. Musashi-1 inhibit translation initiation of its target mRNA, *m-Numb*, by competing with eIF4G for Poly A Binding Protein. Musashi-1 is mainly expressed in stem and progenitor cells from different tissues in mammals, and a decrease occurs as cells commit to lineage differentiation. Recently, expression of Musashi-1 in mature photoreceptors and retinal pigment epithelium cells was found and its expression in those cells are absolutely necessary for survival of photoreceptors.

**SOURCE:** This antibody was purified from hybridoma (clone 14H1) supernatant using protein G agarose. This hybridoma was established by fusion of mouse myeloma cell P3X63Ag8U.I with Wister rat splenocyte immunized with the recombinant protein containing 190-362 aa peptide of full length mouse Musashi-1. The immunized protein was lacked two alternative splicing regions (245-268 and 287-297). 14H1 epitope lies between the Musashi-1 amino acids 235 and 244 (LAPGYTYQFP).

**FORMULATION:** 50  $\mu$ g IgG in 100  $\mu$ L volume of PBS containing 1% BSA and 0.09%  $\text{NaN}_3$ .

\*Azide may react with copper or lead in plumbing system to form explosive metal azides. Therefore, always flush plenty of water when disposing materials containing azide into drain.

**STORAGE:** This antibody solution is stable for one year from the date of purchase when stored at 4°C.

**REACTIVITY:** This antibody reacts with Musashi-1 on Immunohistochemistry.

## APPLICATIONS:

Immunohistochemistry: 1  $\mu$ g/mL

Heat treatment is necessary for paraffin embedded sections.

Microwave oven; 2 times for 10 minutes each in 10 mM citrate buffer (pH 6.3)

\*Please refer to the data sheet (MBL code no. D270-3) for other applications.

Detailed procedure is provided in the following **PROTOCOL.**

## SPECIES CROSS REACTIVITY:

Species	Human	Mouse	Rat
Tissue	Not Tested	embryonic brain	Not tested
Reactivity on IHC		+	

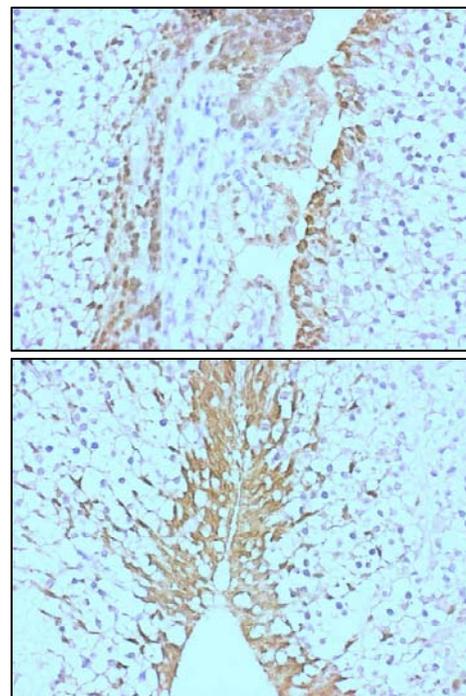
## INTENDED USE:

For Research Use Only. Not for use in diagnostic procedures.

## REFERENCES:

- 1) Susaki, K., *et al.*, *Exp. Eye Res.* **88**, 347-355 (2009)
- 2) Abreu, R. S., *et al.*, *J. Biol. Chem.* **284**, 12125-12135 (2009)
- 3) Kawahara, H., *et al.*, *J. Cell Biol.* **181**, 639-653 (2008)
- 4) Imai, T., *et al.*, *Mol. Cell Biol.* **21**, 3888-3900 (2001)
- 5) Kaneko, Y., *et al.*, *Dev. Neurosci.* **22**, 139-153 (2000)
- 6) Sakakibara, S., *et al.*, *Dev. Biol.* **176**, 230-242 (1996)

Clone 14H1 was established by Kaneko *et al.* and reported in the reference number 5).



**Immunohistochemical detection of mouse Musashi-1 on paraffin embedded section of mouse embryonic brain (E14.5) with D270-6.**

**PROTOCOL:**

**Immunohistochemical staining for paraffin-embedded sections: SAB method**

- 1) Deparaffinize the sections with Xylene 3 times for 3-5 minutes each.
- 2) Wash the slides with Ethanol 3 times for 3-5 minutes each.
- 3) Wash the slides 3 times in PBS for 3-5 minutes each.
- 4) Heat treatment  
Heat treatment by Microwave:  
Place the slides put on staining basket in 500 mL beaker with 500 mL of 10 mM citrate buffer (pH 6.3). Cover the beaker with plastic wrap, then process the slides 2 times for 10 minutes each at 500 W with microwave oven. Let the slides cool down in the beaker at room temperature for about 40 minutes.
- 5) Remove the slides from the citrate buffer and cover each section with 3% H<sub>2</sub>O<sub>2</sub> in PBS for 10 minutes at room temperature to block endogenous peroxidase activity. Wash 3 times in PBS for 5 minutes each.
- 6) Remove the slides from PBS, wipe gently around each section and cover tissues with blocking buffer (20 mM HEPES, 1% BSA, 135 mM NaCl) for 5 minutes to block non-specific staining. Do not wash.
- 7) Tip off the blocking buffer, wipe gently around each section and cover tissues with primary antibody diluted with blocking buffer as suggested in the **APPLICATIONS**.
- 8) Incubate the sections for 1 hour at room temperature.
- 9) Wash the slides 3 times in PBS for 5 minutes each.
- 10) Wipe gently around each section and cover tissues with Streptavidin-Peroxidase (Ultratech HRP Kit; MBL, code no. IM-2391). Incubate for 15 minutes at room temperature. Wash as in step 9).
- 11) Visualize by reacting for 10 minutes with DAB substrate solution (MBL; code no. 8469). \*DAB is a suspect carcinogen and must be handled with care. Always wear gloves.
- 12) Wash the slides in water for 5 minutes.
- 13) Counter stain in hematoxylin for 1 minute, wash the slides 3 times in water for 5 minutes each, and then immerse the slides in PBS for 5 minutes. Dehydrate by immersing in Ethanol 3 times for 3 minutes each, followed by immersing in Xylene 3 times for 3 minutes each.
- 14) Now ready for mounting.

(Positive control for Immunohistochemistry; mouse embryonic brain)

**RELATED PRODUCTS:**

- D270-3 anti-Musashi-1/Msi1 (14H1)
- RN010P anti-MSI1/Musashi1 (polyclonal)