



## Musashi-1

## Data Sheet

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<b>Catalog Number:</b>	RA14128	<b>Host:</b>	Rabbit
<b>Product Type:</b>	Affinity Purified	<b>Species</b>	Human, Rat, Mouse
<b>Immunogen Sequence:</b>	PQPGLASPDSPHPDCK Conjugated to BSA	<b>Reactivity:</b>	
<b>Applications:</b>	Immunohistochemistry: 1:100-1,000 Immunocytochemistry 1:100 Western Blot 1:100	<b>Format:</b>	1.0 mg/ml in PBS containing 0.05% sodium azide
<b>Storage:</b>	Dilutions listed as a recommendation. Optimal dilution should be determined by investigator. Maintain at +2-8°C for 3 months or at -20°C for longer periods. Stable for 1 year. <i>Avoid repeated freeze-thaw cycles.</i>		

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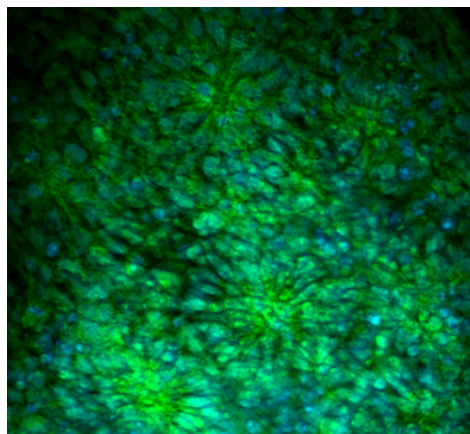
### Application Notes

Affinity purified antibody was screened on neural rosettes of neural cells (human) and primary neural cells derived from rosettes.

#### Description/Data:

Musashi<sup>1</sup>, a neural RNA-binding protein, plays an important role in regulating cell differentiation in precursor cells. Musashi-1 (Msi-1) has been shown to increase the accumulation of tau isoforms in intracellular inclusions in dementia and Parkinson's. The presence of Msi-1 in a significant percentage of neurons containing cytoplasmic inclusions in 2 other neurodegenerative diseases Alzheimer's disease and Pick disease suggests that it may play a role in the pathogenesis of these neurodegenerative disorders. Musashi1 has also been detected in human tumor tissues such as gliomas and melanomas, suggesting its involvement in cancer development. Msi-1 also appears to play a vital role in the development of several types of carcinoma such as human hepatoma, and may be a useful molecular marker for tumor detection.

*Image: Musashi (green) staining of neural rosettes(human). Nuclei are counterstained blue (DAPI). Image courtesy of Drs. Patricia Wilson and Steve Stice, University of Georgia.*



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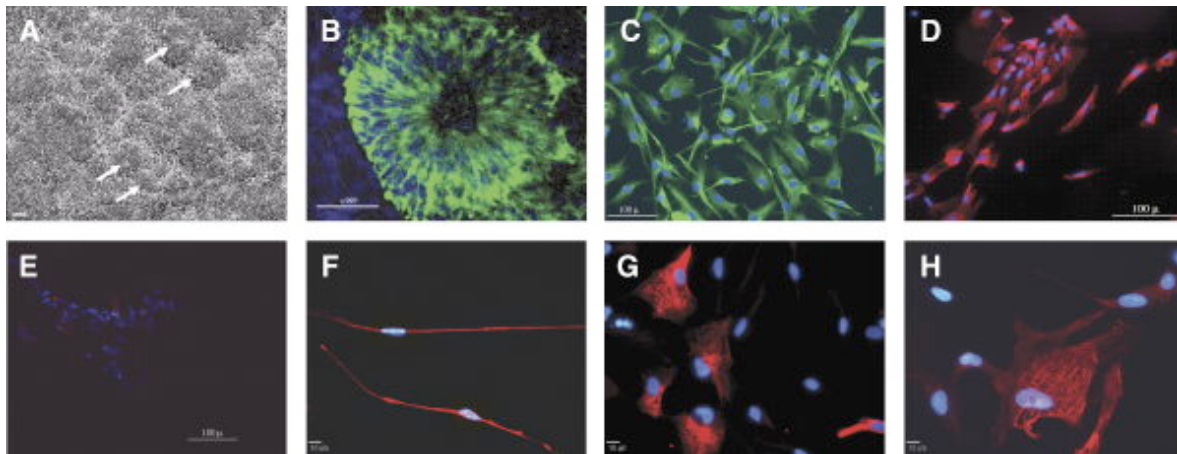
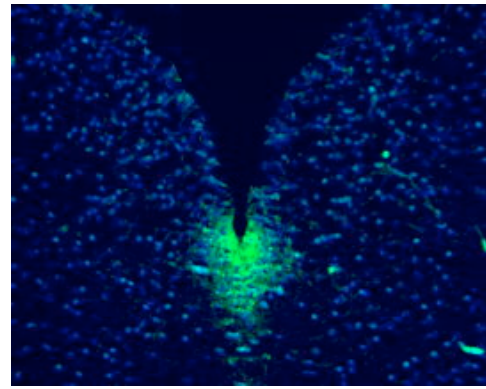
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Image: Musashi-positive cells in the ventricular zone of E14.5 mouse medulla. Picture was taken at 200x magnification. The sections are 4% PFA fixed, paraffin-embedded and cut at 5 micron. Courtesy of Xi Huang, Chiang Lab, VUMC.



Images: Immunostaining of STEMEZ(TM) hNP1 Progenitors before and after differentiation. The culture was highly homogenous with neural rosettes. (A) Neural rosettes (white arrows, bright field) from WA09 cells. A similar result also obtained with BG02 cell line. (B) Shown here, a neural rosette stained with Nestin (NES) (green) antibody. Propagated Neural progenitors showed expression of marker genes, NES (C) and Musashi 1 (D) but not SOX2 (E). Further differentiation produced neurons (Tuj1) (F), astrocytes (GFAP) (G) and oligodendrocytes (myelin basic protein)(H) (lower panel). DAPI (blue) was used for staining the nuclei (scale bar for (A) through (E) is 100  $\mu$ m and for the remaining figures 10  $\mu$ m). Differentiation (2007) DOI: [10.1111/j.1432-0436.2007.00256.x](https://doi.org/10.1111/j.1432-0436.2007.00256.x)...Dilutions: NES (1:100, Neuromics, Edina, MN), MS11 (1:100, Neuromics), Tuj1 (1:500, Neuromics)...

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**Key Customer References:**

Min-Tsai Liu, Yung-Hui Kuan, Jingwen Wang, René Hen, and Michael D. Gershon. 5-HT4 Receptor-Mediated Neuroprotection and Neurogenesis in the Enteric Nervous System of Adult Mice. *The Journal of Neuroscience*, August 5, 2009, 29(31):9683-9699; doi:10.1523/JNEUROSCI.1145-09.2009.

**Antibodies Used:**

- GFAP (Chicken-Cat#: CH22102)-Dilution 1:2000
- Musashi-1 (Rabbit-Catalog#: RA14128)-IHC Dilution 1:100; Western Blot 1:1000
- Neurofilament NF-H (Chicken#: CH22104)-Dilution 1:2000
- S100B (Rabbit-Catalog#: RA25022)-Dilution 1:1000

Sujoy K. Dhara, Kowser Hasneen, David W. Machacek, Nolan L. Boyd, Raj R. Rao, Steven L. Stice (2008). Human neural progenitor cells derived from embryonic stem cells in feeder-free cultures. *Differentiation* 76 (5) , 454–464  
doi:10.1111/j.1432-0436.2007.00256.x.

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