

## S100 Protein Ab-1 (Clone 4C4.9)

### Mouse Monoclonal Antibody

**Cat. #MS-296-P0, -P1, or -P (0.1ml, 0.5ml, or 1.0ml at 200µg/ml)** (Purified Ab with BSA and Azide)

**Cat. #MS-296-P1ABX or -PABX (0.1ml or 0.2ml at 1.0mg/ml)** (Purified Ab without BSA and Azide)

**Cat. #MS-296-B0, -B1, or -B (0.1ml, 0.5ml, or 1.0ml at 200µg/ml)** (Biotin-Labeled Ab with BSA and Azide)

**Cat. #MS-296-R7 (7.0ml)** (Ready-to-Use for Immunohistochemical Staining)

**Cat. #MS-296-PCS (5 Slides)** (Positive Control for Histology)

Please note this data sheet has been changed effective March, 29 2010

**Description:** S100 belongs to the family of calcium binding proteins such as calmodulin and troponin C. S100A is composed of an alpha and beta chain whereas S100B is composed of two beta chains. S100 protein is also expressed in the antigen presenting cells such as the Langerhans cells in skin and interdigitating reticulum cells in the paracortex of lymph nodes.

**Comments:** Antibody to S100 stains Schwannomas, ependymomas, astroglomas, almost all benign and malignant melanomas and their metastases. Ab-1 is excellent for immuno-histochemical staining of formalin-fixed, paraffin-embedded tissues. S100 protein is highly soluble and may be eluted from frozen tissue during staining.

**Mol. Wt. of Antigen:** ~22kDa (non-reduced); ~11kDa (reduced)

**Epitope:** Not determined

**Species Reactivity:** Human, Cow, Rat, and Mouse. Others-not known.

**Clone Designation:** 4C4.9

**Ig Isotype:** IgG<sub>2a</sub>

**Immunogen:** Purified bovine brain S100 protein

### Applications and Suggested Dilutions:

- Immunohistology (Formalin/paraffin)  
(Ab 1:100 for 20 min at RT using UltraVision LP systems)

(Ab 1:100 for 20 min at RT using UltraVision Quanto systems)

- \* [No special pretreatment is required for histo-chemical staining of formalin/paraffin tissues.]

The optimal dilution for a specific application should be determined by the investigator.

**Positive Control:** Melanoma or Schwannoma

**Cellular Localization:** Cytoplasmic

**Storage and Stability:** Antibody with sodium azide is stable for 24 months when stored at 2-8°C. Antibody WITHOUT sodium azide is stable for 36 months when stored at below 0°C.

### Supplied As:

200µg/ml antibody purified from the ascites fluid by Protein A chromatography. Prepared in 10mM PBS, pH 7.4, with 0.2% BSA and 0.09% sodium azide. Also available without BSA and azide at 1mg/ml,

or

Prediluted antibody which is ready-to-use for staining of formalin-fixed, paraffin-embedded tissues.

### Suggested References:

- Joshi MG; et al. Modern Pathology, 1996 Jan, 9(1):57-62.
- McLaren KM; et al. Human Pathology, 1996 Jul, 27(7):633-6.

### Limitations and Warranty:

Our products are intended FOR RESEARCH USE ONLY and are not approved for clinical diagnosis, drug use or therapeutic procedures. No products are to be construed as a recommendation for use in violation of any patents. We make no representations, warranties or assurances as to the accuracy or completeness of information provided on our data sheets and website. Our warranty is limited to the actual price paid for the product. NeoMarkers is not liable for any property damage, personal injury, time or effort or economic loss caused by our products.

### Material Safety Data:

This product is not licensed or approved for administration to humans or to animals other than the experimental animals. Standard Laboratory Practices should be followed when handling this material. The chemical, physical, and toxicological properties of this material have not been thoroughly investigated. Appropriate measures should be taken to avoid skin and eye contact, inhalation, and ingestion. The material contains 0.09% sodium azide as a preservative. Although the quantity of azide is very small, appropriate care should be taken when handling this material as indicated above. The National Institute of Occupational Safety and Health has issued a bulletin citing the potential explosion hazard due to the reaction of sodium azide with copper, lead, brass, or solder in the plumbing systems. Sodium azide forms hydrazoic acid in acidic conditions and should be discarded in



## S100 Protein Ab-1 (Clone 4C4.9)

### Mouse Monoclonal Antibody

Cat. #MS-296-P0, -P1, or -P (0.1ml, 0.5ml, or 1.0ml at 200µg/ml) (Purified Ab with BSA and Azide)

Cat. #MS-296-P1ABX or -PABX (0.1ml or 0.2ml at 1.0mg/ml) (Purified Ab without BSA and Azide)

Cat. #MS-296-B0, -B1, or -B (0.1ml, 0.5ml, or 1.0ml at 200µg/ml) (Biotin-Labeled Ab with BSA and Azide)

Cat. #MS-296-R7 (7.0ml) (Ready-to-Use for Immunohistochemical Staining)

Cat. #MS-296-PCS (5 Slides) (Positive Control for Histology)

Please note this data sheet has been changed effective March, 29 2010

a large volume of running water to avoid deposits forming in metal drainage pipes.

### For Research Use Only

#### Additional Suggested References:

- Mrak RE; Sheng JG; Griffin WS. Correlation of astrocytic S100 beta expression with dystrophic neurites in amyloid plaques of Alzheimer's disease. *Journal of Neuropathology and Experimental Neurology*, 1996 Mar, 55(3):273-9.
- Sidoroff A; Zelger B; Steiner H; Smith N. Indeterminate cell histiocytosis--a clinicopathological entity with features of both X- and non-X histiocytosis. *British Journal of Dermatology*, 1996 Mar, 134(3):525-32.
- al-Saleh W; Delvenne P; Arrese JE; Nikkels AF; Pierard GE; Boniver J. Inverse modulation of intraepithelial Langerhans' cells and stromal macrophage/dendrocyte populations in human papillomavirus-associated squamous intraepithelial lesions of the cervix. *Virchows Archiv*, 1995, 427(1):41-8.
- Lombardi T; Lock C; Samson J; Odell EW. S100, alpha-smooth muscle actin and cytokeratin 19 immunohistochemistry in odontogenic and soft tissue myxomas. *Journal of Clinical Pathology*, 1995 Aug, 48(8):759-62.
- Barrett AW; Scully C. S100 protein in oral biology and pathology. *Journal of Oral Pathology and Medicine*, 1994 Nov, 23(10):433-40.
- Chang ES; Wick MR; Swanson PE; Dehner LP. Metastatic malignant melanoma with "rhabdoid" features [see comments]. *American Journal of Clinical Pathology*, 1994 Oct, 102(4):426-31.
- Korabiowska M; Mirecka J; Brinck U; Szuta M; Stypulkowska J; Wiese G; Bartkowski S; Schauer A. Immunohistochemical demonstration of S100 protein in malignant melanomas of the facial skin and oral cavity. *Journal of Nihon University School of Dentistry*, 1994 Jun, 36(2):117-21.
- Matsushima S; Mori M; Adachi Y; Matsukuma A; Sugimachi K. S100 protein positive human breast carcinomas: an immunohistochemical study. *Journal of Surgical Oncology*, 1994 Feb, 55(2):108-13.
- Nishii K; Kita K; Miwa H; Ohno T; Yamaguchi M; Oka K; Shirakawa S; Fukumoto M. S100-positive histiocytes in T-cell-dependent area in human lymph nodes express P-glycoprotein. *Japanese Journal of Cancer Research*, 1994 Sep, 85(9):946-51.
- Sheng JG; Mrak RE; Griffin WS. S100 beta protein expression in Alzheimer disease: potential role in the pathogenesis of neuritic plaques. *Journal of Neuroscience Research*, 1994 Nov 1, 39(4):398-404.
- Van Eldik LJ; Griffin WS. S100 beta expression in Alzheimer's disease: relation to neuropathology in brain regions. *Biochimica et Biophysica Acta*, 1994 Sep 29, 1223(3):398-403.
- Coffin CM; Swanson PE; Wick MR; Dehner LP. An immunohistochemical comparison of chordoma with renal cell carcinoma, colorectal adenocarcinoma, and myxopapillary ependymoma: a potential diagnostic dilemma in the diminutive biopsy. *Modern Pathology*, 1993 Sep, 6(5):531-8.
- Cohen C; Guarner J; DeRose PB. Mammary Paget's disease and associated carcinoma. An immunohistochemical study. *Archives of Pathology and Laboratory Medicine*, 1993 Mar, 117(3):291-4.
- Colasante A; Poletti V; Rosini S; Ferracini R; Musiani P. Langerhans cells in Langerhans cell histiocytosis and peripheral adenocarcinomas of the lung. *American Review of Respiratory Disease*, 1993 Sep, 148(3):752-9.
- Bassler R; Katzer B. Histopathology of myoepithelial (basocellular) hyperplasias in adenosis and epitheliosis of the breast



---

**S100 Protein Ab-1 (Clone 4C4.9)****Mouse Monoclonal Antibody****Cat. #MS-296-P0, -P1, or -P (0.1ml, 0.5ml, or 1.0ml at 200µg/ml)** (Purified Ab with BSA and Azide)**Cat. #MS-296-P1ABX or -PABX (0.1ml or 0.2ml at 1.0mg/ml)** (Purified Ab without BSA and Azide)**Cat. #MS-296-B0, -B1, or -B (0.1ml, 0.5ml, or 1.0ml at 200µg/ml)** (Biotin-Labeled Ab with BSA and Azide)**Cat. #MS-296-R7 (7.0ml)** (Ready-to-Use for Immunohistochemical Staining)**Cat. #MS-296-PCS (5 Slides)** (Positive Control for Histology)**Please note this data sheet has been changed effective March, 29 2010**

demonstrated by the reactivity of cytokeratins and S100 protein. An analysis of heterogenic cell proliferations in 90 cases of benign and malignant breast diseases. Virchows Archiv. a, Pathological Anatomy and Histopathology, 1992, 421(5):435-42.

