

## S100 (4C4.9)

Mouse Monoclonal Antibody

SAM-MM153-2 mL

MM153-10 mL

MM153-25 mL

Document IFU-MM153-S-100 (4C4.9) -06112018  
Release Date: 06/11/2018, IFU-297 Rev A

Immunogen	Clone	Species	Isotype	Primary Antibody Diluent
Affinity purified S-100 protein isolated from cow brain.	4C4.9	Mouse	IgG2a, Kappa	N/A

Catalog	Description
MM153-10	10 mL Ready to Use antibody for use with StatLab Medical Ultra High Def Polymer Detection System
MM153-25	25 mL Ready to Use antibody for use with StatLab Medical Ultra High Def Polymer Detection

### Intended Use

For In Vitro Diagnostic Use. This product is intended for qualitative immunohistochemistry with normal and neoplastic formalin-fixed, paraffin embedded tissue sections, to be viewed by light microscopy. Clinical interpretation of staining results should be accompanied by histological studies with proper controls. Patients' clinical histories and other relevant diagnostic tests should be utilized by a qualified person(s) when evaluating and interpreting tests.

### Summary and Explanation

S100 belongs to the family of calcium binding proteins and S100A and S100B are two members of the S100 family. S100A is composed of an alpha and beta chain whereas S100B is composed of two beta chains. This antibody stains with S-100 protein. S-100 protein has been found in normal melanocytes, Langerhans cells, histiocytes, chondrocytes, lipocytes, skeletal and cardiac muscle, Schwann cells, epithelial and myoepithelial cells of the breast, salivary and sweat glands, as well as glial cells. A large number of well-differentiated tumors of salivary gland, adipose and cartilaginous tissue, and Schwann cell-derived tumors express S-100 protein. Almost all malignant melanomas and cases of histiocytosis X are positive for S-100 protein. S100

is of great value in the identification of several neoplasms, particularly melanomas and their metastases.

### Format

Purified immunoglobulin and contains sodium azide as a preservative.

### Principles of the Procedures

Antigen detection by immunohistochemistry (IHC) is a two-step process involving first, the binding of a primary antibody to the antigen of interest, and second, the detection of bound antibody by a chromogen. The primary antibody may be used in IHC using manual techniques or using automated IHC Staining Systems.

### Dilution of Primary Antibody

StatLab Medical Ready-to-Use antibodies have been optimized for use with the recommended StatLab Medical Polymer Detection System and should not require further dilution. Further dilution may result in loss of sensitivity. The user must validate any such change.

StatLab Medical Concentrated antibodies must be diluted in accordance with the staining procedure when used with the recommended StatLab Medical Detection System. Use of any detection methods other than the recommended systems and protocols require validation by the user. Antibody dilutions should be appropriately adjusted and verified according to the detection system used.

### Materials Required But Not Provided

All the reagents and materials required for IHC are not provided. Pretreatment reagents, detection systems, control slides, control reagents and other ancillary reagents are available from StatLab Medical Products. Please refer to our website at: [www.StatLab.com](http://www.StatLab.com)

### Storage and Handling

Store at 2-8°C. This antibody is suitable for use until expiry date when stored at 2-8°C. Do not use product after the expiration date printed on vial. If reagents are stored under a condition other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly. Unused portions of antibody preparation should be discarded after one day.

The presence of precipitate or an unusual odor indicates that the antibody is deteriorating and should not be used.

Positive and negative controls should be run simultaneously with all patient specimens. If unexpected staining is observed which cannot be explained by variations in laboratory procedures and a problem with the antibody is suspected, contact StatLab Medical Products Technical Support at 800-442-3573 option 5 or E. mail : [ihctech@statlab.com](mailto:ihctech@statlab.com)

### Specimen Collection and Preparation

Tissues fixed in 10% formalin are suitable for use prior to paraffin embedding. Consult references (Kiernan, 1981; Sheehan & Hrapchak, 1980) for further details on specimen preparation.





The user is advised to validate the use of the products with their tissue specimens prepared and handled in accordance with their laboratory practices.

#### Precautions

This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN<sub>3</sub>) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for disease control, 1976, National Institute of Occupational Safety and Health, 1976). Specimens, before and after fixation and all materials exposed to them, should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. Microbial contamination of reagents may result in an increase in nonspecific staining. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change. The SDS is available upon request.

#### Treatment of Tissues Prior to Staining

Pretreatment of tissues, if any, should be done as suggested:

Place the slides in the recommended Antigen Retrieval Solution using an appropriate retrieval/pressure cooker system. Set the temperature for 15-minute incubation at "High Pressure". Allow slides to cool down for 20 minutes prior to staining.

#### Staining Procedure

Refer to the following table for conditions specifically recommended for this antibody. Refer to the StatLab Ultra High Def—Two Step Detection System for guidance on specific staining protocols or other requirements.

Parameter	StatLab Recommendations
Positive Control	Melanoma
Concentrated Dilution	N/A
Pretreatment	Universal Enzyme Retrieval
Incubation Time & Temperature	30 min @ RT
Detection System	Ultra High Def Polymer - Two Step Detection System
Tissue Type	FFPE

#### Quality Control

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA USA (www.clsi.org). 2011.

#### Troubleshooting

Contact StatLab Technical Support at 800-442-3573 option 5 or Email: ihctech@statlab.com.

#### Cellular Localization

Cytoplasmic and cell membrane

#### Limitations of the Procedure

Immunohistochemistry is a complex technique involving both histological and immunological detection methods. Tissue processing and handling prior to immunostaining can also cause inconsistent results. Variations in fixation and embedding or the inherent nature of the tissue may cause variations in results (Nadji and Morales, 1983). Endogenous peroxidase activity or pseudo peroxidase activity in erythrocytes and endogenous biotin may cause non-specific staining depending on detection system used. Tissues containing Hepatitis B surface Antigen (HBsAg) may give false positive with horseradish peroxidase systems (Omata et al, 1980). Improper counterstaining and mounting may compromise the interpretation of results.

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to: fixation, heat-retrieval method, incubation times, and tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of products manufactured for StatLab. Ultimately, it is the responsibility of the investigator to determine optimal conditions. These products are tools that can be used for interpretation of morphological findings in conjunction with other diagnostic tests and pertinent clinical data by a qualified pathologist.

#### References

- Nishikawa *et al.* Identification of S100b protein as copper-binding protein and its suppression of copper-induced cell damage. *J Biol Chem.* 1997;272:23037–23041
- Leite MC, *et al.* Ammonia-induced alteration in S100B secretion in astrocytes is not reverted by creatine addition. *Brain Res Bull.* 2006;70:179–185.
- Broome AM, *et al.* S100 protein subcellular localization during epidermal differentiation and psoriasis. *J Histochem Cytochem.* 2003;51:675–685.

