S100 Protein Cocktail

Concentrated and Prediluted Monoclonal Antibody
902-089-092017

BIOCARE MEDICAL

Catalog Number:	**ACR 089 A, B, C**	**APR 089 AA, H**
Description:	0.1, 0.5, 1.0 ml, concentrated	6.0, 25 ml, prediluted
Dilution:	1:100	Ready-to-use
Diluent:	Da Vinci Green	N/A

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

Summary and Explanation:
The S100 antibody cocktail recognizes proteins of 21-24 kDa, identified as A and B subunits of S100 protein. S100 belongs to the family of calcium binding proteins such as calmodulin and troponin C. S100A is composed of alpha and beta chains whereas S100B is composed of two beta chains. Antibody S100 stains melanocytes, schwannomas, peripheral neural tissue, astrocytes, benign and malignant melanomas, and their metastases (1-6). Studies have shown 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. Histiocytosis X can also be confirmed by S100 staining. According to studies, the S100 monoclonal cocktail is potentially more sensitive than other S100 single clone antibodies; and thus is an excellent pan-melanoma marker. S100 protein is highly soluble and may be eluted from frozen tissue during staining.

Principle of Procedure:
Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. A secondary antibody may be applied to bind the primary antibody, followed by an enzyme labeled polymer; or an enzyme labeled polymer may be applied directly to bind the primary antibody. The detection of the bound primary antibody is evidenced by an enzyme-mediated colorimetric reaction.

Source: Mouse monoclonal
Species Reactivity: Human, mouse and rat
Clone: 15E2E2 + 4C4.9
Isotype: IgG2a + IgG2a
Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig concentration.
Epitope/Antigen: S100 protein
Cellular Localization: Cytoplasmic and nuclear
Positive Tissue Control: Melanoma

Known Applications:
Immunohistochemistry (formalin-fixed paraffin-embedded tissues)
Supplied As: Buffer with protein carrier and preservative

Storage and Stability:
Store at 2ºC to 8ºC. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2ºC to 8ºC.

Staining Protocol Recommendations:
Peroxide Block: Block for 5 minutes with Biocare's Peroxidazed 1.
Pretreatment: (recommended in most cases): Perform heat retrieval using Biocare's Reveal Decloaker. Refer to the Reveal Decloaker product data sheet for specific instructions.
Optional: No Pretreatment (recommended for better morphology preservation in cutaneous melanomas)
Protein Block (Optional): Incubate for 5-10 minutes at RT with Biocare's Background Punisher.
Primary Antibody: Incubate for 30 minutes at RT if no pretreatment used. Incubate for 15 minutes at RT if heat pretreatment used.
Probe: Incubate for 10 minutes at RT if no pretreatment used. Incubate for 5 minutes at RT if heat pretreatment used.
Polymer: Incubate for 10-20 minutes at RT if no pretreatment used. Incubate for 5 minutes at RT if heat pretreatment used.
Chromogen:
Incubate for 5 minutes at RT with Biocare's DAB - OR - Incubate for 5-7 minutes at RT with Biocare's Warp Red.

Staining Protocol Recommendations Cont'd:
Counterstain:
Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

Technical Note:
This antibody has been optimized for use with Biocare's MACH 4 detection system. Use TBS buffer for washing steps.

Limitations:
This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

Precautions:
1. 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_3) 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) (7)
2. 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 into contact with sensitive areas, wash with copious amounts of water. (8)
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. Do not use reagent after the expiration date printed on the vial.
6. The SDS is available upon request and is located at http://biocare.net.

Technical Support:
Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

References:

1. Banerjee SS, *et al.* Malignant melanoma showing smooth muscle differentiation. J Clin Pathol. 1996 Nov;49(11):950-1.
2. Argenyi ZB, *et al.* S-100 protein-negative malignant melanoma: fact or fiction? A light- microscopic and immunohistochemical study. Am J Dermatopathol. 1994 Jun;16(3):233-40.
3. Fernando SS, Johnson S, Bate J. Immunohistochemical analysis of cutaneous malignant melanoma: comparison of S-100 protein, HMB45 monoclonal antibody and NKI/C3 monoclonal antibody. Pathology. 1994 Jan;26(1):16-9.
4. Tousignant J, *et al.* Immunohistochemical characteristics of malignant melanoma. A study of 40 cases and review of the literature. Arch Anat Cytol Pathol. 1990; 38(1-2):5-10.
5. Miettinen M, Franssila K. Immunohistochemical spectrum of malignant melanoma. The common presence of keratins. Lab Invest. 1989 Dec;61(6):623-8.
6. Fitzgibbons PL, *et al.* Primary mucosal malignant melanoma: an immunohistochemical study of 12 cases with comparison to cutaneous and metastatic melanomas. Hum Pathol. 1989 Mar;20(3):269-72.
7. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
8. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

Biocare Medical
60 Berry Drive
Pacheco, CA 94553
USA