



Smooth Muscle Actin (SMA)
Concentrated and Prediluted Polyclonal Antibody
Control Number: 901-001-071310

ISO
9001:2000
CERTIFIED

Catalog Number:	CM 001 A, B, C	PM 001 AA
Description:	0.1, 0.5, 1.0 ml, concentrated	6.0 ml, prediluted
Dilution:	1:150-1:250	Ready-to-use
Diluent:	Van Gogh Yellow	N/A

Intended Use:

For In Vitro Diagnostic Use

Summary and Explanation:

This antibody recognizes the alpha-smooth muscle isoform of actin. It shows no cross-reaction with actin from fibroblasts (beta- and gamma-cytoplasmic), striated muscle (alpha-sarcomeric), and myocardium (alpha-myocardial). Its epitope is composed of the acetyl group and the first 4 amino acids on the N-terminal end of the peptidic chain of alpha-smooth actin. Biocare's 1A4 MAb stains smooth muscle cells in vessel walls, gut wall, and myometrium. Myoepithelial cells in breast and salivary glands are also stained as they also contain actin. This MAb is reportedly useful for identifying tumors arising from smooth muscle and myoepithelial cells.

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. After labeling the antigen with a primary antibody, a secondary antibody is added to bind to the primary antibody. An enzyme label is then added to bind to the secondary antibody; this detection of the bound antibody is evidenced by a colorimetric reaction.

Source: Mouse monoclonal

Species Reactivity: Human, mouse and rat

Clone: 1A4 (also known as asm-1)

Isotype: IgG_{2a} /kappa

Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig Concentration.

Epitope/Antigen: Smooth Muscle Actin

Cellular Localization: Cytoplasmic

Positive Control: Blood vessels, leiomyoma or leiomyosarcoma

Normal Tissue: Uterus, ovaries or arteries

Abnormal Tissue: Leiomyosarcoma

Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As: Buffer with protein carrier and preservative.

Storage and Stability:

Store at 2°C to 8°C. 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 2°C to 8°C.

Protocol Recommendations:

Peroxide Block:

Block for 5 minutes with Biocare's PEROXIDAZED 1.

Pretreatment Solution (recommended): N/A

Pretreatment Protocol:

N/A

Protein Block:

Optional: Incubate for 10-15 minutes at RT with Biocare's Background Sniper.

Primary Antibody: Incubate for 30 minutes at RT.

Protocol Recommendations Cont'd:

Probe: Incubate for 10 minutes at RT with a Probe.

Polymer: Incubate for 10 minutes at RT with a Polymer.

Chromogen:

Incubate for 5 minutes at RT when using Biocare's DAB. - OR - Incubate for 10-20 minutes at RT when using Biocare's Vulcan Fast Red.

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 standardized with Biocare's MACH 4 detection system. It can also be used on an automated staining system and with other Biocare polymer detection kits. Use TBS buffer for washing steps.

Performance Characteristics:

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, 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 Biocare products. 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.

Quality Control:

Refer to NCCLS Quality Assurance for Immunocytochemistry approved guidelines, December 1999 MM4-A Vol.19 No.26 for more information about tissue controls.

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 (NaN₃) 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 MSDS is available upon request.

Troubleshooting:

Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542-2002.

Limitations and Warranty:

There are no warranties, expressed or implied, which extend beyond this description. Biocare is not liable for property damage, personal injury, or economic loss caused by this product.





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References:

1. Sheehan M, O'Briain DS. False-positive immunoreactivity with muscle-specific actins in non-Hodgkin's lymphomas. Arch Pathol Lab Med, 1995, Mar;119(3):225-228.
2. 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."
3. National Committee for Clinical Laboratory Standards (NCCLS). Protection of laboratory workers from infectious diseases transmitted by blood and tissue; proposed guideline. Villanova, PA 1991;7(9). Order code M29-P.



Smooth Muscle Actin (SMA)

Prediluted Mouse Monoclonal Antibody

Control Number: 901-001IP-071310

Catalog Number:

IP 001 G10

Description:

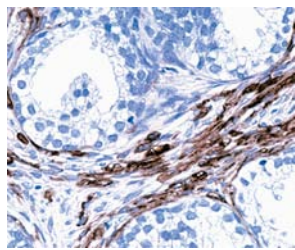
10 ml, predilute

Intended Use:

For In Vitro Diagnostic Use

Summary and Explanation:

This antibody recognizes the alpha-smooth muscle isoform of actin. It shows no cross-reaction with actin from fibroblasts (beta- and gamma-cytoplasmic), striated muscle (alpha-sarcomeric), and myocardium (alpha-myocardial). Its epitope is composed of the acetyl group and the first 4 amino acids on the N-terminal end of the peptidic chain of alpha-smooth actin. Biocare's 1A4 MAb stains smooth muscle cells in vessel walls, gut wall, and myometrium. Myoepithelial cells in breast and salivary glands are also stained as they also contain actin. This MAb is reportedly useful for identifying tumors arising from smooth muscle and myoepithelial cells.



Tissue stained with Smooth Muscle Actin antibody.

Principle of Procedure:

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Source: Mouse Monoclonal

Species Reactivity: Human, mouse and rat

Clone: 1A4 (also known as asm-1)

Isotype: Light Chain: IgG_{2a}/kappa

Antibody Category: Sarcoma

Epitope/Antigen: Smooth Muscle Actin

Total Protein Concentration: ~10 mg/ml. Call for lot specific Ig Concentration.

Cellular Localization: Cytoplasmic

Positive Control: Blood vessels, leiomyoma or leiomyosarcoma

Normal Tissue: Uterus, ovaries or arteries

Abnormal Tissue: Leiomyosarcoma

Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As: Buffer with protein carrier and preservative.

Storage and Stability:

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Protocol Recommendations:

Pretreatment Solution (recommended): N/A

Pretreatment Protocol: N/A

Peroxide Block: Block for 5 minutes at RT.

Protein Block:

Optional: Incubate for 10 minutes at RT.

Primary Antibody: Incubate for 30 minutes at RT.

Secondary: Incubate for 10 minutes at RT.

Tertiary: Incubate for 10 minutes at RT.

Chromogen: Incubate for 5 minutes with DAB at RT.

Counterstain:

1. Rinse with deionized water.
2. Incubate for 5 minutes with automated Hematoxylin.
3. Rinse with TBS Buffer for 1 minute followed by a rinse with deionized water.

Quality Statement:

Biocare protocols have been standardized using in-house antibodies, detection and accessory reagents for use on the intelliPATH FLX automated stainer. Recommended staining protocols are specified in the datasheet of the antibody of interest. Pre-optimized intelliPATH FLX protocols with preset parameters can be displayed, printed and edited according to the procedure in the operator's manual. Refer to the operator's manual for additional instruction to navigate intelliPATH FLX software and stainer. Use TBS for washing steps unless otherwise specified.

Performance Characteristics:

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Limitations and Warranty:

There are no warranties, expressed or implied, which extend beyond this description. Biocare is not liable for property damage, personal injury, or economic loss caused by this product.

References:

1. O Skalli, MF Pelte, MC Pelet, G Gasbbiani, P Gugliotta, G Bussolati, M Ravazzola and L Orci. Alpha-smooth muscle actin, a differentiation marker of smooth muscle cells, is present in microfilamentous bundles of pericytes. Volume 37, Issue 3, pp. 315-321, 03/01/1989.
3. Sheehan M, O'Briain DS. False-positive immunoreactivity with muscle-specific actins in non-Hodgkin's lymphomas. Arch Pathol Lab Med, 1995, Mar;119(3):225-228.
3. 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."
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