

## Smooth Muscle Actin (SMA)

Concentrated and Prediluted Rabbit Monoclonal Antibody

Control Number: 902-305-013015

<b>Catalog Number:</b>	<b>ACR 305 A, B</b>	<b>APR 305 AA</b>
<b>Description:</b>	0.1, 0.5 ml, concentrated	6.0 ml, prediluted
<b>Dilution:</b>	1:50-1:100	Ready-to-use
<b>Diluent:</b>	Renoir Red	N/A

### Intended Use:

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

### Summary and Explanation:

This antibody recognizes the alpha-smooth muscle isoform of actin. Studies have shown it has no cross-reaction with actin from fibroblasts (beta- and gamma-cytoplasmic), striated muscle (alpha-sarcomeric), and myocardium (alpha-myocardial). A synthetic peptide corresponding to N-terminus of human Alpha-actin was used as immunogen. Studies have shown Smooth Muscle Actin 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, an enzyme labeled polymer is added to bind to the primary antibody. The detection of the bound antibody is evidenced by a colorimetric reaction.

**Source:** Rabbit monoclonal

**Species Reactivity:** Human, mouse and rat

**Clone:** E184 (Previously known as C04018)

**Isotype:** IgG

**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

### 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.

### Staining Protocol Recommendations:

**Peroxide Block:** Block for 5 minutes with Biocare's Peroxidized 1.

**Pretreatment Solution (recommended):** Diva

### Pretreatment Protocol:

Heat Retrieval Method:

Retrieve sections under pressure at using Biocare's Decloaking Chamber, followed by a wash in distilled water; alternatively, steam tissue sections for 45-60 minutes. Allow solution to cool for 10 minutes then wash in distilled water.

**Protein Block (Optional):** Incubate for 5-10 minutes at RT with Biocare's Background Punisher.

**Primary Antibody:** Incubate for 30 minutes at RT.

**Probe:** N/A

**Polymer:** Incubate for 30 minutes at RT with a secondary-conjugated polymer.

### 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 standardized with Biocare's MACH 2 Rabbit 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.

#### 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<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) (2)
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 in contact with sensitive areas, wash with copious amounts of water. (3)
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. 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):225-8.
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. 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.

Produced using Abcam's RabMAB® technology. RabMAB® technology is covered by the following U.S. Patents, No. 5,675,063 and/or 7,429,487.

