

# Smoothelin Primary Antibody

Clone: SMTN/2320 (Rabbit Monoclonal)

**Localization** – Cytoplasm

**Host Species** – Rabbit

**Ig Class** – IgG, kappa

## Intended Use

This antibody is designed for the specific localization of Smoothelin in formalin-fixed, paraffin-embedded (FFPE) tissue sections.

## Storage & Handling

Store RTU Vial at 2-8°C. Fresh dilutions for concentrated antibodies, if required, should be prepared prior to use and are stable for up to one day at room temperature (20-26°C).

## Working Principle

IHC is a two-step process wherein the primary antibody binds to the antigen of interest and that binding is detected by a chromogen. The primary antibody may be used in IHC using manual techniques or any Automated Staining System. Positive and negative controls should always be run simultaneously with all patient specimens.

## Product Description

Smoothelin is a cytoskeletal protein selectively expressed in fully differentiated, contractile smooth muscle cells (SMCs), serving as a specific marker of terminal SMC differentiation. It is absent in phenotypically related cell types such as myofibroblasts, myoepithelial cells, and striated muscle cells, including skeletal and cardiac muscle. Smoothelin exhibits a distinct filamentous cytoplasmic organization, as demonstrated by confocal laser scanning microscopy and transfection assays, and colocalizes with actin stress fibers. This structural pattern is morphologically and functionally distinct from other cytoskeletal proteins such as desmin and vimentin. Two tissue-specific isoforms of smoothelin have been identified: a 59 kDa isoform localized to visceral SMCs and a 100 kDa isoform specific to vascular SMCs. Expression of smoothelin spans multiple species, as confirmed by mRNA and protein analyses, and its expression is tightly associated with the contractile phenotype of SMCs. The human SMTN gene is encoded by a single-copy locus on chromosome 22q12.3.

## Material Supplied

Smoothelin antibody is affinity purified and diluted in PBS, pH 7.4, containing 1% BSA and 0.09% sodium azide.

## Material required But Not Supplied

- Xylene
- DI Water
- Control Tissues
- Isopropyl alcohol
- Antigen retrieval buffers
- Hematoxylin
- Positive charged slides
- Blocking Reagents
- Mounting media
- Wash Buffer
- Detection System
- Cover glass

## Working Reagent Procedure

- Ready-to-Use antibodies have been optimized for use with the recommended protocols and should not require further dilution.
- Concentrated antibodies must be diluted in accordance with the recommended protocol.

## Recommended Protocol

Refer the following table for the details on specific recommended protocol for this antibody.

<b>Control Tissue</b>	Human smooth muscle	<b>Antibody Incubation Time</b>	30-60 Minutes at RT
<b>Dilution factor</b>	<b>1:20-50</b> (Antibody Diluent: DH144)	<b>Retrieval Pre-treatment</b>	<b>Tris-EDTA based HIER</b> (AR9 Buffer: DH020)

## Precautions

*This product should be used by qualified and trained professional users only.*

Avoid microbial contamination of reagents to minimize non-specific staining. Never pipette reagents by mouth. Avoid contact of reagents and specimens with skin. If reagents or specimens come into contact with sensitive area, wash with sufficient amounts of water. Dispose of the unused reagents. This kit contain sodium azide at concentrations of less than 0.1%. Sodium azide is not classified as a hazardous chemical at these concentrations, but proper handling protocols should be observed. For more information on product hazards, precautions and waste disposal, *Material Safety Data Sheets* are available upon request.

## Limitations

Improper tissue handling and processing prior to immunostaining can lead to inconsistent results. Variations in embedding and fixation or the nature of the tissue may lead to variations in results. Endogenous peroxidase activity or pseudo peroxidase activity in erythrocytes and tissue biotin may result in non-specific staining based on the detection system employed. Tissues containing Hepatitis B Surface Antigen (HBsAg) may give false positive with horseradish peroxidase systems. Improper counterstaining and mounting may compromise the interpretation of results. Interpretation of the staining result is solely the responsibility of the user. Experimental results should be confirmed by a medically-established diagnostic product or procedure. Evaluation must be performed by a qualified pathologist.

## Troubleshooting

For Technical Support contact us at +91 - 7506501122 or [info@dygnova.com](mailto:info@dygnova.com) or your local distributor to report unusual staining.

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	Manufacturer Details		Use by Date	<b>LOT</b>	Lot/Batch Number
	Manufacturing Date		Consult Instructions for Use	<b>REF</b>	Catalogue Number
	Temperature Limits		Sufficient for 'n' assays / tests	<b>IVD</b>	In-vitro Diagnostic Medical Device