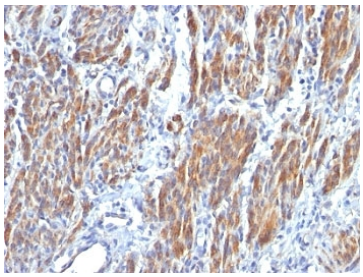
SM-MHC Antibody SMMS-1 / Smooth Muscle Myosin Heavy Chain Antibody [clone SMMS-1] (V2748)

Catalog No.	Formulation	Size
V2748-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2748-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2748SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2748IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

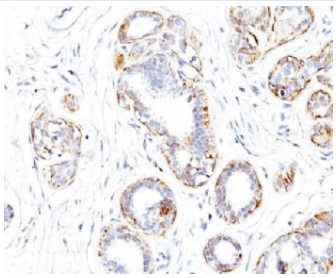
Citations (11)

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SMMS-1
Purity	Protein G affinity chromatography
UniProt	P35749
Localization	Cytoplasmic
Applications	Flow cytometry: 1-2ug/million cells in 0.1ml Immunofluorescence: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT (1) Prediluted IHC only format: incubate for 30 min at RT (2)
Limitations	This SM-MHC Antibody SMMS-1 / Smooth Muscle Myosin Heavy Chain Antibody is available for research use only.



SM-MHC Antibody SMMS-1 Leiomyosarcoma IHC. Immunohistochemical staining of formalin fixed, paraffin embedded human leiomyosarcoma demonstrates Smooth Muscle Myosin Heavy Chain expression using SM-MHC Antibody clone SMMS-1. SMMHC, encoded by the MYH11 gene, is a highly specific marker of differentiated smooth muscle cells and a major component of the contractile apparatus. Strong cytoplasmic staining is observed throughout intersecting fascicles of spindle-shaped tumor cells, consistent with smooth muscle lineage and supporting the diagnosis of leiomyosarcoma. The characteristic staining pattern highlights the value of clone SMMS-1, a well-characterized antibody with extensive literature support, for identifying smooth muscle neoplasms and distinguishing them from other spindle cell tumors. These findings demonstrate the utility of SM-MHC Antibody SMMS-1 for studies of tumor pathology, smooth muscle differentiation, and contractile protein expression.



SM-MHC Antibody SMMS-1 Breast Carcinoma IHC. Immunohistochemical staining of FFPE human breast carcinoma demonstrates Smooth Muscle Myosin Heavy Chain expression using SM-MHC Antibody clone SMMS-1. SMMHC, encoded by the MYH11 gene, is a highly specific marker of myoepithelial and smooth muscle differentiation. Distinct cytoplasmic staining outlines residual myoepithelial cells surrounding ductal structures, while adjacent stromal elements show minimal reactivity. Preservation of this SMMHC-positive layer is valuable for distinguishing noninvasive lesions from invasive carcinoma. Clone SMMS-1, which has been cited extensively in the literature, provides reliable detection of MYH11 expression in breast tissue. These findings support the utility of SM-MHC Antibody SMMS-1 for studies of breast pathology, myoepithelial biology, and smooth muscle differentiation.

Description

SM-MHC Antibody SMMS-1 / Smooth Muscle Myosin Heavy Chain Antibody recognizes Smooth Muscle Myosin Heavy Chain (SMMHC), encoded by the MYH11 gene, a major component of the contractile apparatus and one of the most specific markers of differentiated smooth muscle cells. Mouse monoclonal clone SMMS-1 targets this high molecular weight myosin isoform, which forms thick filaments that interact with actin to generate force required for smooth muscle contraction. SMMHC is abundantly expressed in vascular, gastrointestinal, respiratory, and genitourinary smooth muscle tissues, where it regulates vascular tone, peristalsis, and organ function. Because of its highly restricted expression pattern, SMMHC is widely regarded as a gold standard marker of mature smooth muscle differentiation.

SM-MHC Antibody clone SMMS-1 has been extensively characterized and cited in more than 70 scientific publications, making it one of the most widely recognized monoclonal antibodies against MYH11. The clone has been employed in studies of vascular remodeling, smooth muscle phenotypic modulation, gastrointestinal physiology, and tumor pathology. Its long history of use has established clone SMMS-1 as a trusted reagent for investigating smooth muscle development and disease.

SMMHC belongs to the conventional myosin family and functions through ATP dependent interactions with actin filaments to produce contractile force. Alternative splicing generates multiple isoforms that contribute to tissue specific differences in contractile properties. SMMHC works in concert with alpha smooth muscle actin, calponin, and desmin to maintain the contractile phenotype and structural integrity of smooth muscle cells. Expression of MYH11 is regulated by myocardin and serum response factor dependent pathways that coordinate smooth muscle differentiation and phenotypic plasticity.

Altered MYH11 expression and mutations in the MYH11 gene have been associated with vascular disease, aneurysm formation, and smooth muscle dysfunction. In diagnostic pathology, SMMHC serves as a highly specific marker for identifying smooth muscle tumors and distinguishing leiomyosarcoma from other spindle cell neoplasms. SMMHC staining is also valuable in breast and prostate pathology, where preservation or loss of myoepithelial cells assists in differentiating benign and in situ lesions from invasive carcinomas. Furthermore, chromosomal rearrangements involving MYH11 contribute to leukemogenesis through CBFB-MYH11 fusion proteins in acute myeloid leukemia.

SM-MHC Antibody SMMS-1 / Smooth Muscle Myosin Heavy Chain Antibody is useful for investigations of smooth muscle differentiation, vascular biology, gastrointestinal physiology, and tumor pathology. Detection of endogenous SMMHC using clone SMMS-1 provides a valuable tool for studies of contractility, tissue remodeling, and diseases associated with altered smooth muscle function.

Visit our SMMHC Antibody page to discover additional antibodies against this Smooth Muscle Differentiation Marker, including reagents for studies of vascular biology, contractility, and smooth muscle pathology.

Application Notes

The stated application concentrations are suggested starting amounts. Optimal dilution of the SM-MHC Antibody SMMS-1 / Smooth Muscle Myosin Heavy Chain Antibody should be determined by the researcher.

1. Staining of formalin/paraffin tissues requires boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Human uterus extract was used as the immunogen for the SM-MHC antibody.

Storage

Store the SM-MHC antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

SMMHC Antibody, MYH11 Antibody, Smooth Muscle Myosin Heavy Chain Antibody, SM-MHC Antibody, Myosin Heavy Chain 11 Antibody, Smooth Muscle Myosin Antibody, SM2 Myosin Antibody

Copyright © NSJ Bioreagents. All rights reserved.