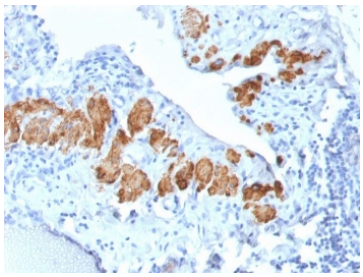
SMMHC Antibody MYH11/2303R / Smooth Muscle Differentiation Marker Antibody [clone MYH11/2303R] (V3733)

Catalog No.	Formulation	Size
V3733-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3733-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3733SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3733IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

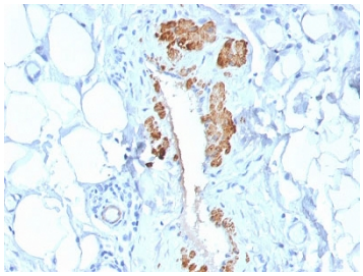
Recombinant RABBIT MONOCLONAL

Bulk quote request

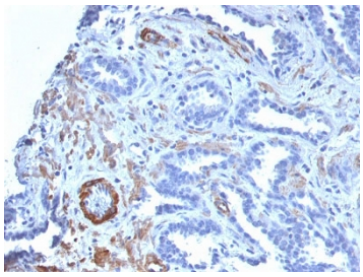
Species Reactivity	Human, Rabbit, Guinea pig
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MYH11/2303R
Purity	Protein A affinity chromatography
UniProt	P35749
RRID	AB_3758488
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT (Human) Western blot: 2-4ug/ml (Human/Rabbit/Guinea pig)
Limitations	This SMMHC Antibody MYH11/2303R / Smooth Muscle Differentiation Marker Antibody is available for research use only.



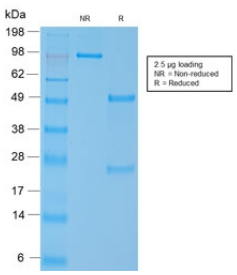
SMMHC Antibody MYH11/2303R Breast Carcinoma IHC. Immunohistochemical staining of FFPE human breast carcinoma demonstrates expression of Smooth Muscle Myosin Heavy Chain using recombinant SMMHC antibody clone MYH11/2303R. SMMHC, encoded by the MYH11 gene, is a highly specific marker of differentiated smooth muscle and myoepithelial cells. Strong cytoplasmic staining highlights residual myoepithelial cells surrounding glandular structures, consistent with the utility of SMMHC in distinguishing invasive from in situ breast lesions. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 10-20 minutes followed by cooling at room temperature for 20 minutes. These results support the utility of SMMHC Antibody for studies of myoepithelial differentiation, breast pathology, and smooth muscle biology.



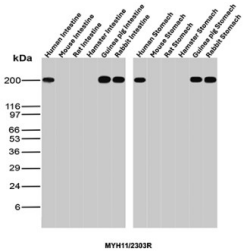
SMMHC Antibody MYH11/2303R Breast Myoepithelium IHC. Immunohistochemical staining of FFPE human breast carcinoma demonstrates Smooth Muscle Myosin Heavy Chain expression using SMMHC antibody clone MYH11/2303R. SMMHC, encoded by MYH11, is a highly specific marker of mature smooth muscle and myoepithelial differentiation. Strong cytoplasmic staining is observed in myoepithelial cells surrounding ductal structures within adipose-rich breast tissue, while adjacent stromal elements remain largely negative. This staining pattern highlights the value of SMMHC in identifying intact myoepithelial layers and aiding in the distinction between invasive and noninvasive breast lesions. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 10-20 minutes followed by cooling at room temperature for 20 minutes. These results support the utility of SMMHC Antibody for studies of breast pathology, myoepithelial biology, and smooth muscle differentiation.



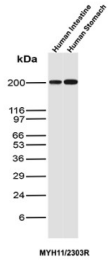
SMMHC Antibody MYH11/2303R Prostate Carcinoma IHC. Immunohistochemical staining of FFPE human prostate carcinoma demonstrates Smooth Muscle Myosin Heavy Chain expression using SMMHC antibody clone MYH11/2303R. SMMHC, encoded by the MYH11 gene, is a highly specific marker of differentiated smooth muscle and prostatic basal-associated stromal elements. Distinct cytoplasmic staining highlights smooth muscle bundles and vascular walls surrounding malignant glands, while neoplastic epithelial cells show little to no reactivity. Preservation or loss of SMMHC-positive structures provides valuable information in the histopathologic evaluation of prostatic lesions. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 10-20 minutes followed by cooling at room temperature for 20 minutes. These results support the utility of SMMHC Antibody for studies of prostate pathology, smooth muscle differentiation, and stromal architecture.



SDS-PAGE analysis of purified, BSA-free recombinant SMMHC antibody (clone MYH11/2303R) as confirmation of integrity and purity.



SMMHC Antibody MYH11/2303R Gastrointestinal Tissues WB. Western blot analysis of multiple gastrointestinal tissue lysates using SMMHC Antibody clone MYH11/2303R. Samples include human, mouse, rat, hamster, guinea pig, and rabbit intestine, as well as stomach tissues from the same species. MYH11, also known as Smooth Muscle Myosin Heavy Chain (SMMHC), is a contractile protein highly enriched in visceral smooth muscle cells and serves as a marker of smooth muscle differentiation. A prominent band is detected at approximately 200 kDa in human, guinea pig, and rabbit intestine, consistent with the expected molecular weight of MYH11. Species-dependent differences in signal intensity likely reflect variation in expression levels and epitope conservation. These results demonstrate the utility of MYH11 Antibody for studies of smooth muscle biology, gastrointestinal physiology, and cross-species tissue analysis.



SMMHC Antibody MYH11/2303R Stomach and Intestine Tissues WB. Western blot analysis of human intestine and human stomach tissue lysates using SMMHC Antibody clone MYH11/2303R. SMMHC, also known as Smooth Muscle Myosin Heavy Chain or MYH11, is a major contractile protein that serves as a highly specific marker of differentiated smooth muscle cells. A strong band is detected at approximately 200 kDa in both tissue samples, corresponding to the expected molecular weight of full length MYH11. The robust expression observed in gastrointestinal tissues is consistent with the abundance of smooth muscle layers responsible for peristalsis and organ motility. These results support the utility of SMMHC Antibody for studies of smooth muscle differentiation, gastrointestinal physiology, and visceral smooth muscle pathology.

Description

SMMHC Antibody MYH11/2303R / Smooth Muscle Differentiation Marker Antibody recognizes Smooth Muscle Myosin Heavy Chain (SMMHC), encoded by the MYH11 gene, a major contractile protein that is highly specific for differentiated smooth muscle cells. Recombinant rabbit monoclonal clone MYH11/2303R targets this essential component of the contractile apparatus and provides a valuable marker for identifying mature smooth muscle tissues. SMMHC belongs to the conventional myosin family and forms thick filaments that interact with actin to generate force required for smooth muscle contraction. Through ATP dependent motor activity, SMMHC contributes to vascular tone, gastrointestinal motility, urinary tract function, and regulation of airway caliber. Because of its highly restricted expression pattern, SMMHC is widely regarded as one of the most reliable markers of smooth muscle differentiation.

SMMHC is abundantly expressed in vascular, visceral, and genitourinary smooth muscle tissues where it plays essential roles in maintaining contractility and tissue integrity. Alternative splicing generates isoforms with distinct functional properties that contribute to specialized contractile responses in different organs. Together with ACTA2, calponin, and desmin, SMMHC forms part of the contractile machinery responsible for smooth muscle function. Expression of SMMHC is regulated by serum response factor and myocardin dependent pathways that coordinate smooth muscle differentiation and phenotypic plasticity.

Loss or altered expression of SMMHC has been associated with vascular disease, aneurysm formation, and smooth muscle dysfunction. Mutations in MYH11 are linked to familial thoracic aortic aneurysms and patent ductus arteriosus. In pathology, SMMHC serves as a highly specific marker for identifying smooth muscle neoplasms and distinguishing leiomyosarcomas and smooth muscle proliferations from other spindle cell tumors. Detection of SMMHC using recombinant rabbit monoclonal clone MYH11/2303R is also valuable for assessing vascular integrity and smooth muscle differentiation in developmental and regenerative studies.

Beyond normal physiology, MYH11 rearrangements have been identified in acute myeloid leukemia involving CBFB-MYH11 fusion proteins, highlighting the clinical significance of this protein in cancer biology. SMMHC expression and localization are therefore important for studies of vascular disease, tumor pathology, and developmental biology. Because of its specificity for mature smooth muscle cells, SMMHC remains a gold standard marker for investigating smooth muscle differentiation and contractile function.

SMMHC Antibody / Smooth Muscle Differentiation Marker Antibody is useful for studies of vascular biology, gastrointestinal physiology, smooth muscle pathology, and developmental biology. Detection of endogenous SMMHC provides a valuable tool for investigations of contractility, tissue remodeling, and diseases associated with altered smooth muscle differentiation.

Explore our Cardiovascular Antibodies page to discover SMMHC antibodies and other markers involved in smooth muscle differentiation, vascular remodeling, and contractile function.

Application Notes

Optimal dilution of the SMMHC Antibody MYH11/2303R / Smooth Muscle Differentiation Marker Antibody should be determined by the researcher.

1. 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

Recombinant human protein was used as the immunogen for the recombinant SMMHC antibody.

Storage

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

Alternate Names

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

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