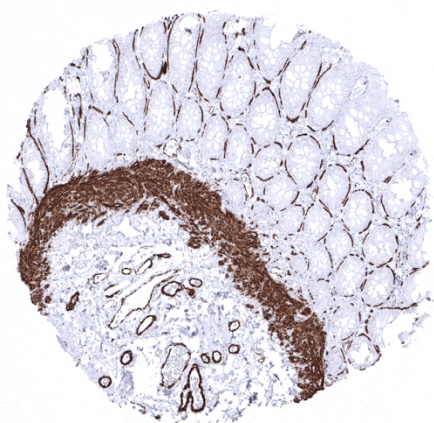


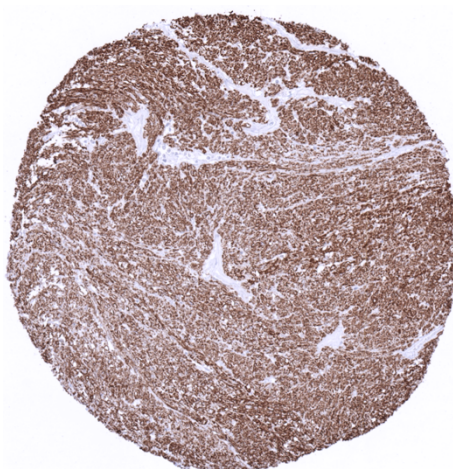
## Anti-Myosin Heavy Chain 11 Antibody MSVA-375R / Recombinant Rabbit monoclonal

Human SwissProt	P35749
Human Gene Symbol	MYH11
Synonyms	AAT4; Myosin heavy chain 11 (MYH11); Myosin heavy chain 11 smooth muscle; Smooth muscle myosin heavy chain 11; Myosin-11; SM1; SM2; SMHC; SMMHC
Specificity	MYH11
Immunogen	Recombinant human MYH11 protein
Isotype	Rabbit / IgG
Species Reactivity	Human

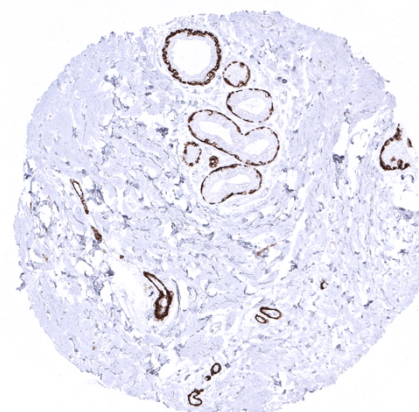
Localization	Cytoplasmic
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide.
Positive Control	In the colon, a strong MYH11 staining should be seen in muscularis mucosa, small and medium sized vessels and the fine smooth muscle layer surrounding crypt glands.
Negative Control	Colon: epithelial cells are always negative.



In the colorectum, strong MYH11 staining is seen in muscularis mucosa, small and medium sized vessels and the fine smooth muscle layer surrounding crypt glands.



Strong diffuse MYH11 immunostaining of a leiomyosarcoma



In the breast, MYH11 immunostaining strongly stains myoepithelial cells.

### Biology

Myosin Heavy Chain 11 (MYH11) is a highly specific marker for smooth muscle. Myosin-11, also termed smooth muscle myosin heavy chain (SMMHC) is a smooth muscle myosin belonging to the myosin heavy chain family. It is a contractile protein, converting chemical into mechanical energy through the ATP hydrolysis. Alternative splicing generates multiple isoforms the composition of which varies during muscle cell maturation. Mutations in MYH11 have been found in about 1% of patients with a familial predisposition to thoracic aortic aneurysms leading to acute aortic dissections (TAAD). The MYH11 gene is involved in the genomic rearrangements inv(16)(p13q22) and t(16;16)(p13;q22) which are both characteristic of acute myeloid leukemia (AML) with abnormal bone marrow eosinophils (AML-M4Eo). As a result a fusion protein composed of core binding factor beta (CBF-beta) with SMMHC (CBFbeta-SMMHC; Inv(16)(p13q22)) is found in the nuclei of nearly all AML M4Eo. In normal tissues, MYH11 is expressed in the cytoplasm and cell membrane of smooth muscle cells occurring in various organs as well as in small, medium sized, and large vessels including the aortic media. MYH11 immunostaining is also seen in myoepithelial cells of the breast as well as in myoepithelial cells and basal cells of excretory ducts in salivary glands. In the colorectum, MYH11 delineates a discrete but distinct pericryptal cell layer. MYH11 is also expressed in follicular dendritic cells. In tumors, MYH11 is almost exclusively seen in tumors derived from smooth muscle such as leiomyoma and leiomyosarcoma. Nuclear MYH11 staining is seen in AML-M4Eo.

### Potential Research Applications

-MYH11 immunostaining can be used as a marker for myoepithelial cells in multicolor immunohistochemistry approaches for automated tumor detection.  
-A comprehensive study analyzing MYH11 expression in various different tumor entities would be helpful to assess the diagnostic significance of MYH11 IHC.

### Protocol Suggestions

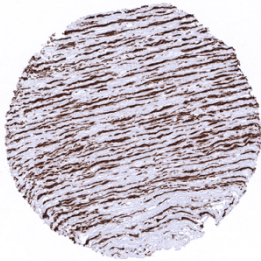
**Dilution: 1:50 ; pH 9 is optimal.** Freshly cut sections should be used (less than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

### Limitations

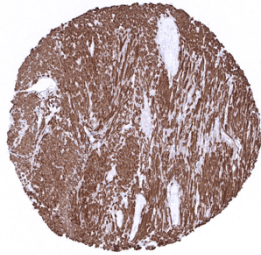
This antibody is available for **research use only** and is not approved for use in diagnostics.  
Not for resale without express authorization.

### Warranty

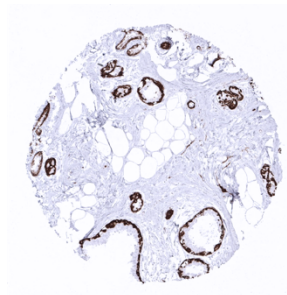
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



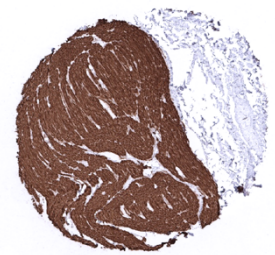
Aorta, media - MYH11 stains smooth muscle in the media of the aorta



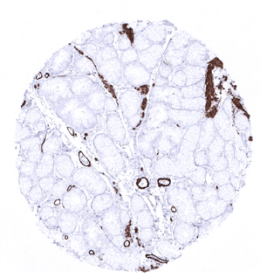
Appendix, muscular wall



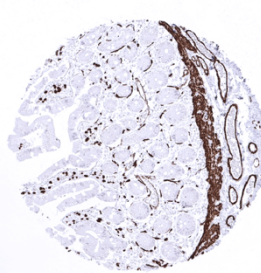
Breast - Strong MYH11 immunostaining in myoepithelial cells of breast glands



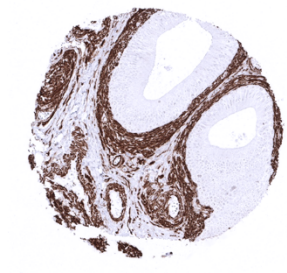
Colon descendens, muscular wall



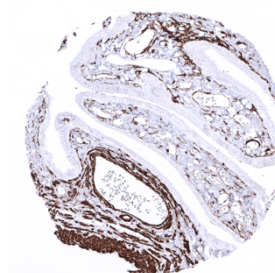
Duodenum, Brunner gland



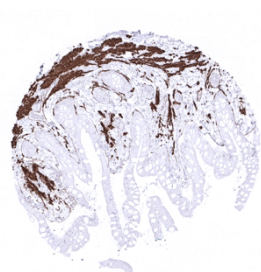
Duodenum, mucosa



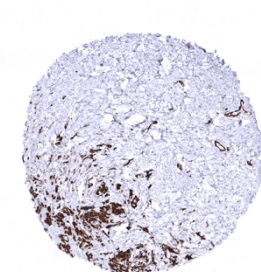
Epididymis



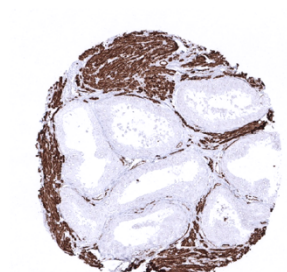
Fallopian tube, mucosa



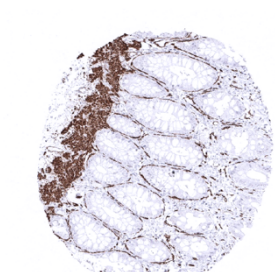
Ileum, mucosa



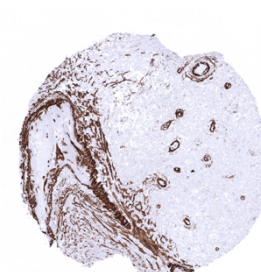
Ovary, stroma - In the ovarian stroma, MYH11 immunostaining is seen in stromal smooth muscle cells



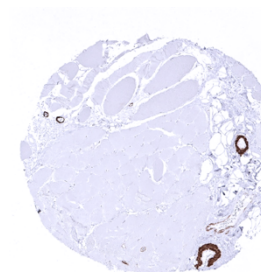
Prostate



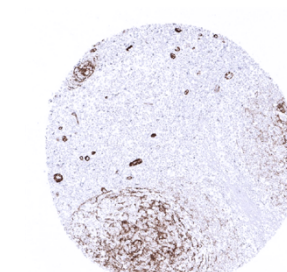
Rectum, mucosa - In the colorectum, MYH11 delineates a discrete but distinct pericryptal cell layer



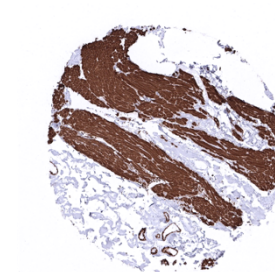
Spleen



Tongue, muscle - In all organs, strong MYH11 immunostaining is seen in the wall of blood vessels



Tonsil - MYH11 is also expressed in follicular dendritic cells



Urinary bladder, muscular wall