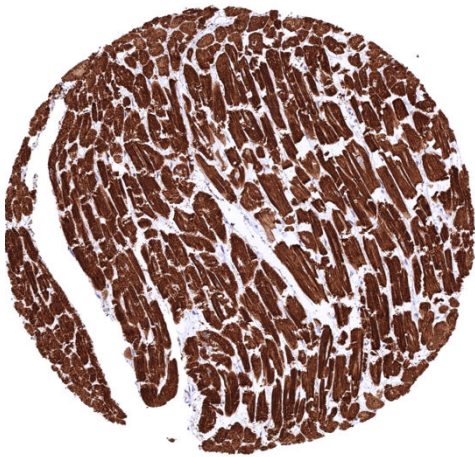


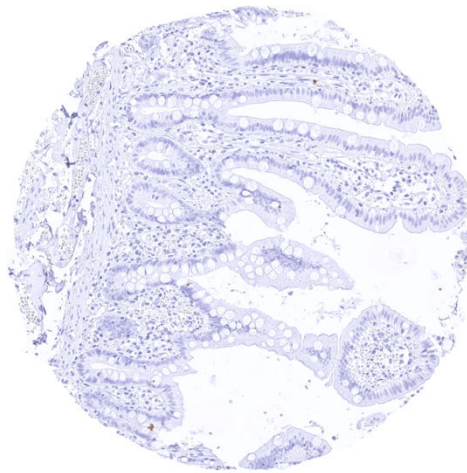
## Anti- Myosin heavy chain 7 (MYH7) Antibody MSVA-464M / Mouse monoclonal

Human SwissProt	P12883
Human Gene Symbol	MYH7
Synonyms	Myosin-7, Myosin heavy chain 7, Myosin heavy chain slow isoform, Myosin heavy chain, cardiac muscle beta isoform, CMH1; MPD1; MyHC-beta; MyHC-slow; MYHCB; Myopathy, distal 1; Myosin heavy chain (AA 1-96); Myosin heavy chain slow isoform; Beta myosin heavy chain; cardiac muscle beta isoform; CMD1S; Myosin heavy chain, cardiac muscle beta isoform; Myosin, heavy chain 7, cardiac muscle, beta; Myosin, heavy polypeptide 7, cardiac muscle, beta; Myosin-7; Rhabdomyosarcoma antigen MU RMS 40.7A; SPMD; SPMM
Specificity	MYH7
Immunogen	Recombinant fragment (around aa1100-1360) of human MYH7 protein (exact sequence is proprietary)
Isotype	Mouse / IgG2b, kappa

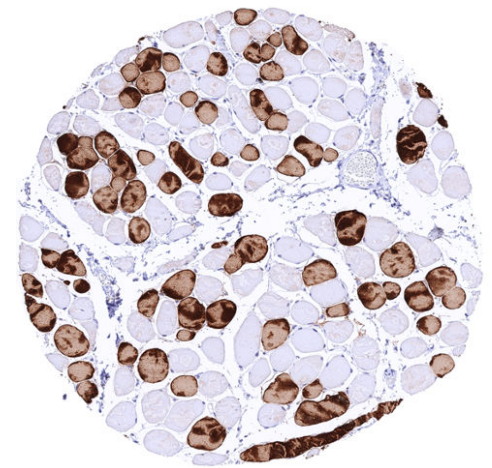
Species Reactivity	Human
Localization	Cytoplasmic
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Skeletal muscle: A strong cytoplasmic MYH7 immunostaining should be seen in a subset of muscle cells.
Negative Control	Skeletal muscle: A subset of skeletal muscle cells must completely lack MYH7 staining.



Heart muscle showing a strong cytoplasmic MYH7 staining of all cells.



Ileum sample lacking MYH7 staining in all cells including smooth muscle.



Skeletal muscle of the tongue showing a strong cytoplasmic MYH7 staining of about 40% of muscle cells.

### BiologyR

Myosin heavy chain 7 (MYH7) is a 223,1 kDa protein coded by the MYH7 gene at chromosome 14q11.2. It represents a myosin heavy chain beta (MHC-β) (slow twitch) isoform expressed primarily in the heart where it defines the thick filament forming the cardiac muscle sarcomeres and plays a critical role in contraction. MYH7 is also built in the type I fibers of skeletal muscle. MYH7 is distinct in its enzymatic properties from the fast isoform of cardiac myosin heavy chain (MYH6, MHC-α). As compared to MYH6, MYH7 has only about 25-50% the contractile velocity but 50% more actin attachment time. In the heart, MYH7 is predominately expressed in the ventricle, while MYH6 is predominantly expressed in the atria. Multiple different mutations of MYH7 cause about 40% of all inherited (autosomal-dominant) hypertrophic cardiomyopathy (HCM) cases and are also responsible for paraspinal and proximal muscle atrophy. In normal tissues, MYH7 is only expressed in heart and skeletal muscle. Among tumors, MYH7 immunostaining may be found in tumor cells with skeletal or heart muscle cell differentiation.

### Potential Research Applications

-MYH7 can be used for studying the role of different skeletal muscle fibres because MYH7 allows a distinction of slow (MYH7 positive) from fast (MYH7 negative) isoform of cardiac myosin heavy chain.

-MYH7 has attracted considerable interest as a result of its fundamental functions in cardiac and skeletal muscle contraction

### Protocol Suggestions

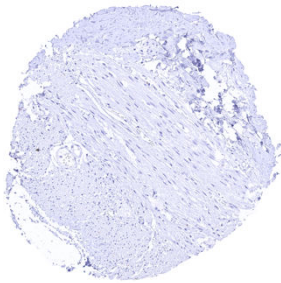
**Dilution: 1:150. pH 7,8 is optimal.** Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

### Limitations

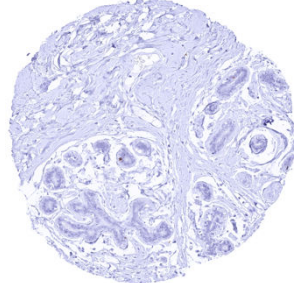
This antibody is available for **research use only** and is not approved for use in diagnostics.

### Warranty

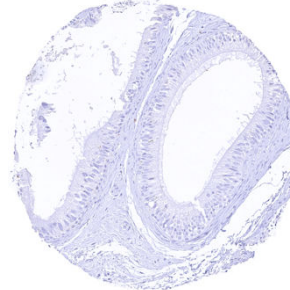
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



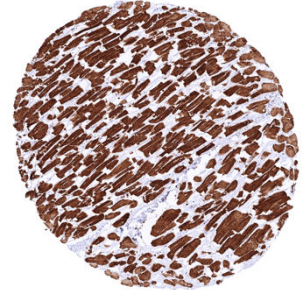
Appendix, muscular wall



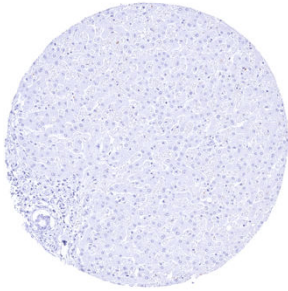
Breast



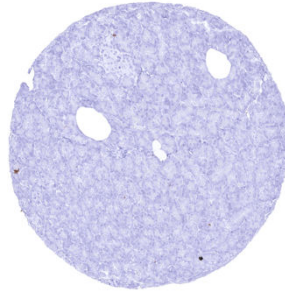
Epididymis (Caput)



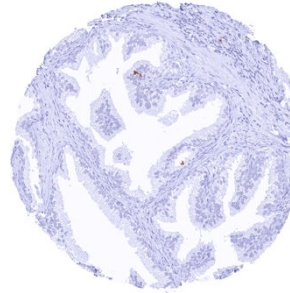
Heart muscle – Strong cytoplasmic MYH7 staining of all muscular cells



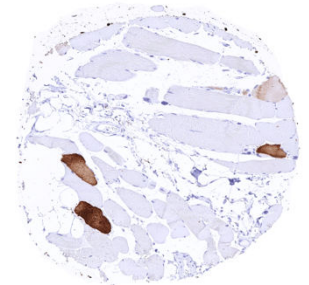
Liver



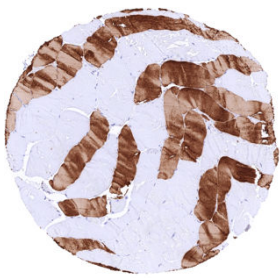
Pancreas



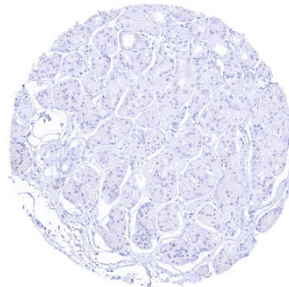
Prostate



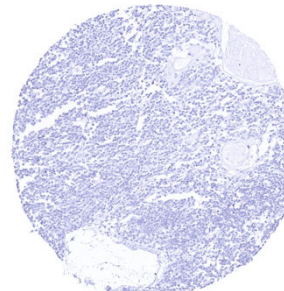
Skeletal muscle – Strong cytoplasmic MYH7 staining of a subset of muscular cells



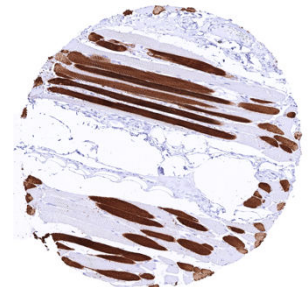
Skeletal muscle – Strong cytoplasmic MYH7 staining of about half of muscular cells



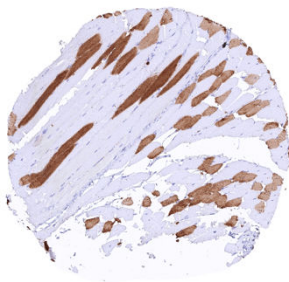
Stomach, antrum



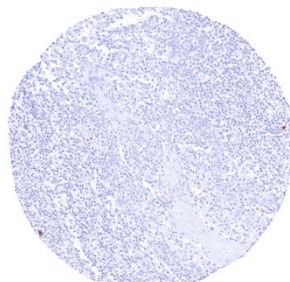
Thymus



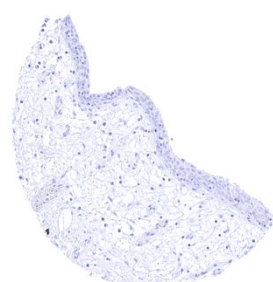
Tongue, muscle – Strong cytoplasmic MYH7 positivity of a fraction of muscular cells. (2)



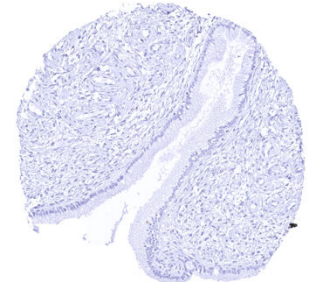
Tongue, muscle – Strong cytoplasmic MYH7 positivity of a fraction of muscular cells



Tonsil



Urinary bladder, urothelium



Uterus, endocervix