

**Desmin Monoclonal Antibody(1B12)**  
Catalog # AP63642**Specification****Desmin Monoclonal Antibody(1B12) - Product Information**

Application	IF
Primary Accession	<a href="#">P17661</a>
Reactivity	Human, Rat, Mouse
Host	Mouse
Clonality	Monoclonal

**Desmin Monoclonal Antibody(1B12) - Additional Information****Gene ID** 1674**Other Names**  
DES; Desmin**Dilution**  
IF~~IF: 1:50-200 IHC 1:100-200**Format**  
Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.**Storage Conditions**  
-20°C**Desmin Monoclonal Antibody(1B12) - Protein Information****Name** DES**Function**

Muscle-specific type III intermediate filament essential for proper muscular structure and function. Plays a crucial role in maintaining the structure of sarcomeres, inter-connecting the Z-disks and forming the myofibrils, linking them not only to the sarcolemmal cytoskeleton, but also to the nucleus and mitochondria, thus providing strength for the muscle fiber during activity (PubMed:[25358400](http://www.uniprot.org/citations/25358400)). In adult striated muscle they form a fibrous network connecting myofibrils to each other and to the plasma membrane from the periphery of the Z- line structures (PubMed:[24200904](http://www.uniprot.org/citations/24200904), PubMed:[25394388](http://www.uniprot.org/citations/25394388), PubMed:[26724190](http://www.uniprot.org/citations/26724190)). May act as a sarcomeric microtubule-anchoring protein: specifically associates with dephosphorylated tubulin-alpha chains, leading to buckled microtubules and mechanical resistance to contraction. Required for nuclear membrane integrity, via anchoring at the cell tip and nuclear envelope, resulting in maintenance of microtubule-derived intracellular mechanical forces (By similarity). Contributes to the transcriptional regulation of the NKX2-5 gene in cardiac progenitor cells during a short period of cardiomyogenesis and in cardiac side population stem cells in the adult. Plays a role in

maintaining an optimal conformation of nebulette (NEB) on heart muscle sarcomeres to bind and recruit cardiac alpha-actin (By similarity).

#### Cellular Location

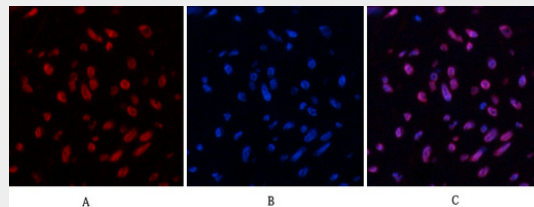
Cytoplasm, myofibril, sarcomere, Z line. Cytoplasm Cell membrane, sarcolemma. Nucleus {ECO:0000250|UniProtKB:P31001}. Cell tip {ECO:0000250|UniProtKB:P31001}. Nucleus envelope {ECO:0000250|UniProtKB:P31001}. Note=Localizes in the intercalated disks which occur at the Z line of cardiomyocytes (PubMed:24200904, PubMed:26724190). Localizes in the nucleus exclusively in differentiating cardiac progenitor cells and premature cardiomyocytes (By similarity). PKP2 is required for correct anchoring of DES at the cell tip and nuclear envelope (By similarity) {ECO:0000250|UniProtKB:P31001, ECO:0000269|PubMed:24200904, ECO:0000269|PubMed:26724190}

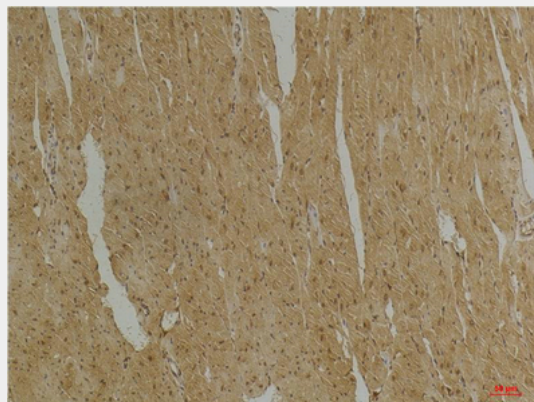
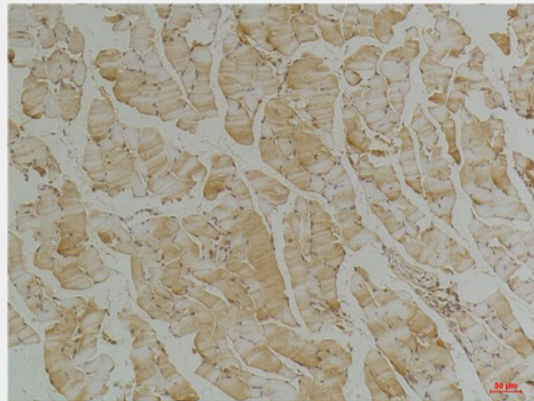
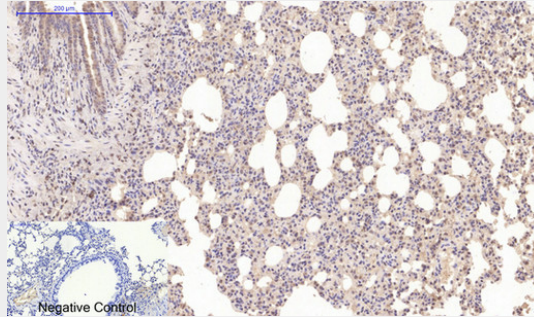
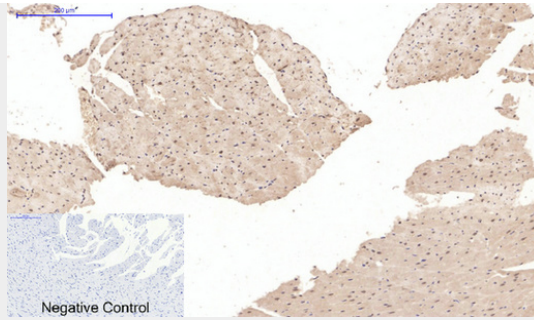
#### Desmin Monoclonal Antibody(1B12) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Desmin Monoclonal Antibody(1B12) - Images





### **Desmin Monoclonal Antibody(1B12) - Background**

Muscle-specific type III intermediate filament essential for proper muscular structure and function.

Plays a crucial role in maintaining the structure of sarcomeres, inter-connecting the Z-disks and forming the myofibrils, linking them not only to the sarcolemmal cytoskeleton, but also to the nucleus and mitochondria, thus providing strength for the muscle fiber during activity (PubMed:25358400). In adult striated muscle they form a fibrous network connecting myofibrils to each other and to the plasma membrane from the periphery of the Z-line structures (PubMed:24200904, PubMed:25394388, PubMed:26724190). May act as a sarcomeric microtubule-anchoring protein: specifically associates with detyrosinated tubulin-alpha chains, leading to buckled microtubules and mechanical resistance to contraction. Contributes to the transcriptional regulation of the NKX2-5 gene in cardiac progenitor cells during a short period of cardiomyogenesis and in cardiac side population stem cells in the adult. Plays a role in maintaining an optimal conformation of nebulin (NEB) on heart muscle sarcomeres to bind and recruit cardiac alpha-actin (By similarity).