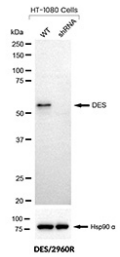
Desmin Antibody / Knockdown-Validated Muscle Marker Antibody [clone DES/2960R] (V7478)

Catalog No.	Formulation	Size
V7478-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7478-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7478SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7478IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

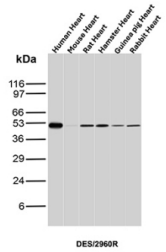
Recombinant RABBIT MONOCLONAL

Bulk quote request

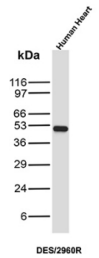
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	DES/2960R
Purity	Protein A affinity chromatography
UniProt	P17661
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Western Blot : 2-4ug/ml
Limitations	This Desmin Antibody / Knockdown-Validated Muscle Marker Antibody is available for research use only.



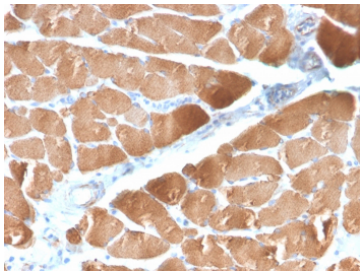
Desmin Antibody Knockdown Validation WB. Western blot analysis of Desmin expression in wild-type (WT) and Desmin shRNA knockdown HT-1080 cells using Desmin antibody clone DES/2960R. Lane 1: WT cell lysate, Lane 2: Desmin shRNA knockdown lysate. A band is detected at approximately 50-55 kDa in WT cells, consistent with the predicted molecular weight of Desmin, and is reduced in knockdown cells, confirming target-specific detection. Hsp90 alpha is shown as a loading control.



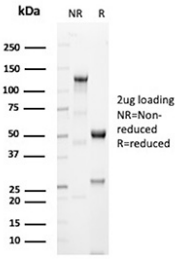
Desmin Antibody Multi-Species Heart WB. Western blot analysis of Desmin expression across heart tissue lysates from multiple species using Desmin antibody clone DES/2960R. Lane 1: human heart lysate, Lane 2: mouse heart lysate, Lane 3: rat heart lysate, Lane 4: hamster heart lysate, Lane 5: guinea pig heart lysate, Lane 6: rabbit heart lysate. A band is detected at approximately 50-55 kDa in all samples, consistent with the predicted molecular weight of Desmin, a muscle-specific intermediate filament protein.



Desmin Antibody Heart Tissue WB. Western blot analysis of Desmin / DES expression in human heart tissue lysate using Desmin antibody clone DES/2960R. Lane 1: human heart lysate. A band is detected at approximately 50-55 kDa, consistent with the predicted molecular weight of Desmin, aligning with its known expression in cardiac muscle tissue.



Desmin Antibody Skeletal Muscle IHC. Immunohistochemical analysis of Desmin in formalin-fixed, paraffin-embedded human skeletal muscle tissue using Desmin antibody clone DES/2960R. Strong cytoplasmic staining is observed in muscle fibers, consistent with Desmin localization within the intermediate filament network of muscle cells, supporting its role as a muscle structural marker.



Desmin Antibody SDS-PAGE (Reducing vs Non-Reducing). SDS-PAGE analysis of Desmin antibody clone DES/2960R under non-reducing (NR) and reducing (R) conditions. Under reducing conditions, bands corresponding to antibody heavy chain (~50-55 kDa) and light chain (~25 kDa) are observed. Differences between NR and R conditions reflect expected changes in antibody structure during reduction.

Description

Desmin (DES) is a muscle-specific intermediate filament protein that plays a central role in maintaining the structural integrity and organization of muscle cells. Desmin is predominantly localized in the cytoplasm of skeletal, cardiac, and smooth muscle cells, where it forms an interconnected filament network that links the contractile apparatus to the sarcolemma, nucleus, and mitochondria. This network is essential for preserving cellular architecture, enabling force transmission, and maintaining mechanical stability during contraction. The Desmin Antibody / Knockdown-Validated Muscle Marker Antibody is designed to detect this critical cytoskeletal protein with high specificity, supported by functional validation through gene silencing approaches. This antibody is part of a collection of knockdown validated antibodies that have been functionally assessed using gene silencing approaches to support target-specific detection.

Desmin antibody, also referred to as DES antibody in the literature, recognizes a highly conserved protein that is selectively expressed in muscle tissues and serves as a canonical marker of muscle lineage and differentiation. Western blot analysis demonstrates a clear and reproducible band at approximately 50-55 kDa across heart tissue lysates from multiple species, including human, mouse, rat, hamster, guinea pig, and rabbit, consistent with the predicted molecular weight of Desmin. This consistent cross-species detection highlights the conserved structure of Desmin and supports its use in comparative studies of muscle biology and cytoskeletal organization.

Critically, knockdown validation using DES-targeted shRNA in HT-1080 cells results in a marked reduction of the ~50-55 kDa band relative to wild-type controls, providing direct functional evidence that the detected signal corresponds specifically to Desmin protein. This type of validation establishes a clear relationship between gene expression and antibody signal, offering a high level of confidence in specificity and reducing the likelihood of off-target detection in western blot applications. Such gene silencing-based validation is widely regarded as a robust approach for confirming antibody performance.

Structurally, Desmin belongs to the type III intermediate filament protein family and assembles into filamentous networks that provide tensile strength and resilience to muscle cells. Under non-reducing conditions, Desmin can form higher-order assemblies or complexes, which may appear as higher molecular weight species on western blot, while reducing conditions reveal the monomeric form at approximately 50Ã¢Â€Â“55 kDa. These biochemical properties reflect its role in filament assembly and dynamic cytoskeletal organization.

Functionally, Desmin is essential for maintaining the alignment and integrity of myofibrils, anchoring the contractile machinery, and coordinating interactions between the cytoskeleton and intracellular organelles. It plays a key role in distributing mechanical stress across muscle fibers and preserving tissue integrity during contraction. Disruption of Desmin expression or filament organization has been associated with a range of myopathies and cardiomyopathies, underscoring its importance in muscle physiology and disease.

Immunohistochemical analysis of human skeletal muscle tissue demonstrates strong cytoplasmic staining within muscle fibers, consistent with Desmin localization in the intermediate filament network. This characteristic staining pattern highlights muscle fiber architecture and supports its use as a reliable marker for muscle tissue identification. Clone DES/2960R is a recombinant rabbit monoclonal antibody designed to detect Desmin with high specificity, providing a robust and well-validated tool for studies of muscle structure, cytoskeletal organization, and protein expression analysis.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the Desmin Antibody / Knockdown-Validated Muscle 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 Desmin antibody.

Storage

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

Alternate Names

Desmin antibody, DES antibody, Muscle intermediate filament antibody, Desmin IHC antibody, Desmin knockdown antibody