

Desmin (D33): sc-58744

BACKGROUND

Cytoskeletal intermediate filaments (IFs) constitute a diverse group of proteins that are expressed in a highly tissue-specific manner. IFs are constructed from two-chain α -helical coiled-coil molecules arranged on an imperfect helical lattice, and have been widely used as markers for distinguishing individual cell types within a tissue and identifying the origins of metastatic tumors. Vimentin is an IF general marker of cells originating in the mesenchyme. Vimentin and Desmin, a related class III IF, are both expressed during skeletal muscle development. Desmin, a 469 amino acid protein found near the Z line in sarcomeres, is expressed more frequently in adult differentiated state tissues. Desmin makes up attachments between the terminal Z-disc and membrane-associated proteins to form a force-transmitting system. Mutations in the gene encoding for Desmin are associated with adult-onset skeletal myopathy, sporadic disease and mild cardiac involvement.

REFERENCES

1. Li, Z.L., et al. 1989. Human Desmin-coding gene: complete nucleotide sequence, characterization and regulation of expression during myogenesis and development. *Gene* 78: 243-254.
2. Tidball, J.G. 1992. Desmin at myotendinous junctions. *Exp. Cell Res.* 199: 206-212.
3. Stewart, M. 1993. Intermediate filament structure and assembly. *Curr. Opin. Cell Biol.* 5: 3-11.
4. Gereben, B., et al. 1995. Species-specificity of glial Vimentin as revealed by immunocytochemical studies with the Vim 3B4 and V9 monoclonal antibodies. *Neurobiology* 3: 151-164.
5. Andreoli, J.M. and Trevor, K.T. 1995. Structural and biological consequences of increased Vimentin expression in simple epithelial cell types. *Cell Motil. Cytoskeleton* 32: 10-25.
6. Seshadri, R., et al. 1996. Vimentin expression is not associated with poor prognosis in breast cancer. *Int. J. Cancer* 67: 353-356.
7. Essa, T.M., et al. 1996. Vimentin expression in different types of breast carcinoma immunohistochemical study. *J. Egypt. Soc. Parasitol.* 26: 433-442.

CHROMOSOMAL LOCATION

Genetic locus: DES (human) mapping to 2q35; Des (mouse) mapping to 1 C4.

SOURCE

Desmin (D33) is a mouse monoclonal antibody raised against leiomyoma cells of human origin.

PRODUCT

Each vial contains 500 μ l culture supernatant containing IgG₁ with PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

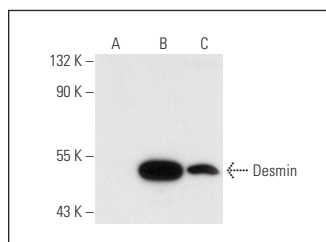
Desmin (D33) is recommended for detection of the 52 kDa Desmin of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [10-20 μ l per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

Suitable for use as control antibody for Desmin siRNA (h): sc-29294, Desmin siRNA (m): sc-29295, Desmin shRNA Plasmid (h): sc-29294-SH, Desmin shRNA Plasmid (m): sc-29295-SH, Desmin shRNA (h) Lentiviral Particles: sc-29294-V and Desmin shRNA (m) Lentiviral Particles: sc-29295-V.

Molecular Weight of Desmin: 53 kDa.

Positive Controls: Desmin (m): 293T Lysate: sc-119754, Sol8 cell lysate: sc-2249 or SJRH30 cell lysate: sc-2287.

DATA



Desmin (D33): sc-58744. Western blot analysis of Desmin expression in non-transfected 293T: sc-117752 (A), mouse Desmin transfected 293T: sc-119754 (B) and SJRH30 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhdanova, O., et al. 2011. The inducible deletion of Drosha and microRNAs in mature podocytes results in a collapsing glomerulopathy. *Kidney Int.* 80: 719-730.
2. Tan, S., et al. 2019. β -Arrestin1 enhances liver fibrosis through autophagy-mediated Snail signaling. *FASEB J.* 33: 2000-2016.
3. Shephard, A.P., et al. 2021. Stroma-derived extracellular vesicle mRNA signatures inform histological nature of prostate cancer. *J. Extracell. Vesicles* 10: e12150.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.



See **Desmin (RD301): sc-23879** for Desmin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.