Revision 1

Store at -20C

#5332

Desmin (D93F5) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-F, IF-IC	H M R	Endogenous	53	Rabbit IgG	#P17661	1674

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Frozen)	1:100
Immunofluorescence (Immunocytochemistry)	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Desmin (D93F5) XP® Rabbit mAb detects endogenous levels of total desmin protein.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to carboxy terminal residues of human desmin protein.

Background

The cytoskeleton consists of three types of cytosolic fibers: microfilaments (actin filaments), intermediate filaments, and microtubules. Major types of intermediate filaments are distinguished and expressed in particular cell types: cytokeratins (epithelial cells), glial fibrillary acidic protein or GFAP (glial cells), desmin (skeletal, visceral, and certain vascular smooth muscle cells), vimentin (mesenchyme origin), and neurofilaments (neurons). GFAP and vimentin form intermediate filaments in astroglial cells and modulate their motility and shape (1). In particular, vimentin filaments are present at early developmental stages, while GFAP filaments are characteristic of differentiated and mature brain astrocytes. Thus, GFAP is commonly used as a marker for intracranial and intraspinal tumors arising from astrocytes (2). Vimentin is present in sarcomas but not carcinomas, and its expression is examined relative to other markers to distinguish between the two forms of neoplasm (3). Desmin is a myogenic marker expressed in early development that forms a network of filaments that extends across the myofibril and surrounds Z discs. The desmin cytoskeleton provides a connection among myofibrils, organelles, and the cytoskeleton (4). Desmin knockout mice develop cardiomyopathy and skeletal and smooth muscle defects (5). In humans, desmin-related myopathies might be caused by mutations in the corresponding desmin gene or in proteins with which desmin interacts, including αB-crystallin and synemin. Disorganized desmin filaments and the accumulation of protein aggregates composed predominantly of desmin characterize desmin-related myopathies (reviewed in 6,7).

Background References

1. Eng, L.F. et al. (2000) *Neurochem Res* 25, 1439-51.
2. Goebel, H.H. et al. (1987) *Acta Histochem Suppl* 34, 81-93.
3. Leader, M. et al. (1987) *Histopathology* 11, 63-72.
4. Capetanaki, Y. et al. (2007) *Exp Cell Res* 313, 2063-76.
5. Li, Z. et al. (1996) *Dev Biol* 175, 362-6.
6. Paulin, D. and Li, Z. (2004) *Exp Cell Res* 301, 1-7.
7. Paulin, D. et al. (2004) *J Pathol* 204, 418-27.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IF-F:** Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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