

#4024 Store at -20°C

Desmin Antibody

✓ 100 µl
(10 western blots)

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rev. 07/29/10

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

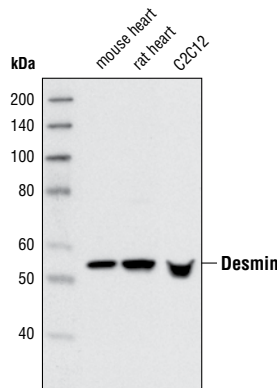
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IF-F Endogenous	M, R, (H, Mk)	53 kDa	Rabbit**

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, 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).

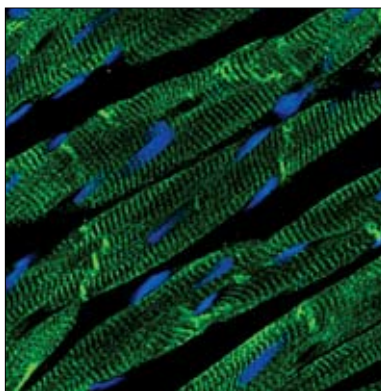
Desmin is a myogenic marker expressed in early development that forms a network of filaments that extends across the myofibril and surrounds Z discs. The desmin cytoskeleton provides a connection among myofibrils, organelles and the cytoskeleton (4). Desmin knockout mice develop cardiomyopathy, skeletal 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 α B-crystallin and synemin. Disorganized desmin filaments and the accumulation of protein aggregates comprised predominantly of desmin characterize desmin-related myopathies (reviewed in 6,7).

Specificity/Sensitivity: Desmin Antibody detects endogenous levels of total desmin protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human desmin. Antibodies are purified by peptide affinity chromatography.



Western blot analysis of extracts from mouse heart, rat heart and C2C12 cells using Desmin Antibody.



Confocal immunofluorescent analysis of rat heart using Desmin Antibody (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Entrez-Gene ID #1674
Swiss-Prot Acc. #P17661

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

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000
Immunofluorescence (IF-F) 1:25

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

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.

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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.