SANTA CRUZ BIOTECHNOLOGY, INC.

# Dematin (18): sc-135881

## BACKGROUND

Caldesmon, Filamin 1, Nebulin, Villin, Plastin, ADF, Gelsolin, Dematin and Cofilin are differentially expressed Actin binding proteins. Dematin is a bundling protein of the erythrocyte membrane skeleton. Dematin is localized to the spectrin-Actin junctions and its Actin-bundling activity is abolished upon phosphorylation by cAMP-dependent protein kinase. It may also play a role in the regulation of cell shape, implying a role in tumorigenesis. Dematin is a trimeric protein containing two identical subunits and a larger subunit. It is localized to the heart, brain, lung, skeletal muscle and kidney. The Dematin gene is located on human chromosome 8p21, a region frequently deleted in prostate cancer, and mouse chromosome 14.

## REFERENCES


1. Rana, A.P., et al. 1993. Cloning of human erythroid Dematin reveals another member of the Villin family. Proc. Natl. Acad. Sci. USA 90: 6651-6655.
2. Manno, S., et al. 1995. Modulation of erythrocyte membrane mechanical function by β-spectrin phosphorylation and dephosphorylation. J. Biol. Chem. 270: 5659-5665.
3. Azim, A.C., et al. 1995. Isoform cloning, Actin binding, and chromosomal localization of human erythroid Dematin, a member of the Villin superfamily. J. Biol. Chem. 270: 17407-17413.
4. Peters, L.L., et al. 1995. The gene encoding the erythrocyte membrane skeleton protein Dematin (Epb4.9) maps to mouse chromosome 14. Genomics 26: 634-635.
5. Azim, A.C., et al. 1996. Human erythrocyte Dematin and protein 4.2 (Pallidin) are ATP binding proteins. Biochemistry 35: 3001-3006.
6. Kim, A.C., et al. 1998. Alternative splicing and structure of the human erythroid Dematin gene. Biochim. Biophys. Acta 1398: 382-386.
7. Lutchman, M., et al. 1999. Loss of heterozygosity on 8p in prostate cancer implicates a role for Dematin in tumor progression. Cancer Genet. Cytogenet. 115: 65-69.


## CHROMOSOMAL LOCATION

Genetic locus: EPB49 (human) mapping to 8p21.3; Epb4.9 (mouse) mapping to 14 D2.

## SOURCE

Dematin (18) is a mouse monoclonal antibody raised against amino acids 68-190 of Dematin of human origin.

## PRODUCT

Each vial contains 50 µg $IgG_1$ in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% BSA.

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

Dematin (18) is recommended for detection of Dematin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Dematin siRNA (h): sc-105286, Dematin siRNA (m): sc-142992, Dematin shRNA Plasmid (h): sc-105286-SH, Dematin shRNA Plasmid (m): sc-142992-SH, Dematin shRNA (h) Lentiviral Particles: sc-105286-V and Dematin shRNA (m) Lentiviral Particles: sc-142992-V.

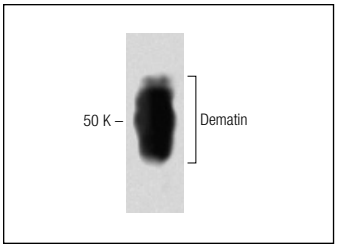
Molecular Weight of Dematin: 52/48 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

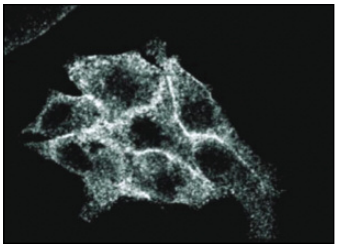
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA




Dematin (18): sc-135881. Western blot analysis of Dematin expression in Hep G2 whole cell lysate.



Dematin (18): sc-135881. Immunofluorescence staining of Hep G2 cells showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS


1. Ryu, M.S., et al. 2012. Proteomic analysis shows the upregulation of erythrocyte dematin in zinc-restricted human subjects. Am. J. Clin. Nutr. 95: 1096-1102.


## RESEARCH USE

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

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.