## SANTA CRUZ BIOTECHNOLOGY, INC.

# Vimentin (E-5): sc-373717



#### BACKGROUND

Cytoskeletal intermediate filaments (IFs) constitute a diverse group of proteins that are expressed in a highly tissue-specific manner. Intermediate filaments are constructed from two-chain,  $\alpha$ -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. One such intermediate filament protein, Vimentin, is a general marker of cells originating in the mesenchyme. Vimentin is frequently coexpressed with other members of the intermediate filament family, such as the cytokeratins, in neoplasms including melanoma and breast carcinoma.

#### REFERENCES

- 1. Draberova, E., et al. 1986. A common antigenic determinant of Vimentin and Desmin defined by monoclonal antibody. Folia Biol. 32: 295-303.
- Van Muijen, G.N., et al. 1987. Coexpression of intermediate filament polypeptides in human fetal and adult tissues. Lab. Invest. 57: 359-369.
- Lukas, Z., et al. 1989. Expression of Vimentin and glial fibrillary acidic protein in human developing spinal cord. Histochem. J. 21: 693-701.
- 4. Lukas, Z., et al. 1993. Expression of phosphorylated high molecular weight neurofilament protein (NF-H) and Vimentin in human developing dorsal root ganglia and spinal cord. Histochemistry 100: 495-502.

### **CHROMOSOMAL LOCATION**

Genetic locus: VIM (human) mapping to 10p13; Vim (mouse) mapping to 2 A1.

#### SOURCE

Vimentin (E-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 411-447 near the C-terminus of Vimentin of human origin.

## PRODUCT

Each vial contains 200  $\mu g$  IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Vimentin (E-5) is available conjugated to agarose (sc-373717 AC), 500  $\mu$ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373717 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373717 PE), fluorescein (sc-373717 FITC), Alexa Fluor<sup>®</sup> 488 (sc-373717 AF488), Alexa Fluor<sup>®</sup> 546 (sc-373717 AF546), Alexa Fluor<sup>®</sup> 594 (sc-373717 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-373717 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-373717 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-373717 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373717 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## **APPLICATIONS**

Vimentin (E-5) is recommended for detection of Vimentin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Vimentin (E-5) is also recommended for detection of Vimentin in additional species, including canine and bovine.

Suitable for use as control antibody for Vimentin siRNA (h): sc-29522, Vimentin siRNA (m): sc-29523, Vimentin siRNA (r): sc-156015, Vimentin shRNA Plasmid (h): sc-29522-SH, Vimentin shRNA Plasmid (m): sc-29523-SH, Vimentin shRNA Plasmid (r): sc-156015-SH, Vimentin shRNA (h) Lentiviral Particles: sc-29522-V, Vimentin shRNA (m) Lentiviral Particles: sc-29523-V and Vimentin shRNA (r) Lentiviral Particles: sc-156015-V.

Molecular Weight of Vimentin: 57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

#### DATA





Vimentin (E-5) Alexa Fluor® 594: sc-373717 AF594. Direct fluorescent western blot analysis of Vimentin expression in MOLT-4 (A), Jurkat (B), HeLa (C), C3H/10T1/2 (D) and NIH/3T3 (E) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Vimentin (E-5) PE: sc-373717 PE. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoskeletal localization. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 (**A**). Vimentin (E-5): sc-373717. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic and membrane staining of Jymphoid cells (**B**).

## **SELECT PRODUCT CITATIONS**

- Westwick, J.K., et al. 1994. Bone marrow mononuclear cell transplantation increases metalloproteinase-9 and 13 and decreases tissue inhibitors of metalloproteinase-1 and 2 expression in the liver of cholestatic rats. Proc. Natl. Acad. Sci. USA 91: 6030-6034.
- Ma, S., et al. 2019. Histone deacetylases inhibitor MS-275 suppresses human esophageal squamous cell carcinoma cell growth and progression via the PI3K/Akt/mTOR pathway. J. Cell. Physiol. 234: 22400-22410.
- Döpper, H., et al. 2020. Differentiation protocol for 3D retinal organoids, immunostaining and signal quantitation. Curr. Protoc. Stem Cell Biol. 55: e120.

#### **RESEARCH USE**

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