

Vimentin (9E7E7): sc-66001

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, 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. 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. Stewart, M. 1993. Intermediate filament structure and assembly. *Curr. Opin. Cell Biol.* 5: 3-11.
2. Parry, D.A. 1995. Hard α -keratin IF: a structural model lacking a head-to-tail molecular overlap but having hybrid features characteristic of both epidermal keratin and Vimentin IF. *Proteins* 22: 267-272.
3. Duprey, P., et al. 1995. What can be learned from intermediate filament gene regulation in the mouse embryo. *Int. J. Dev. Biol.* 39: 443-457.

CHROMOSOMAL LOCATION

Genetic locus: VIM (human) mapping to 10p13.

SOURCE

Vimentin (9E7E7) is a mouse monoclonal antibody raised against purified truncated recombinant Vimentin of human origin.

PRODUCT

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

APPLICATIONS

Vimentin (9E7E7) is recommended for detection of Vimentin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of Vimentin: 57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HEK293 whole cell lysate: sc-45136 or A549 cell lysate: sc-2413.

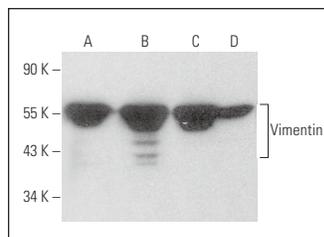
STORAGE

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

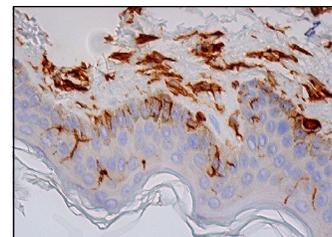
RESEARCH USE

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

DATA



Vimentin (9E7E7): sc-66001. Western blot analysis of Vimentin expression in HEK293 (A), A549 (B), HeLa (C) and Jurkat (D) whole cell lysates.



Vimentin (9E7E7): sc-66001. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic and membrane staining of fibroblasts, Langerhans cells and melanocytes.

SELECT PRODUCT CITATIONS

1. Wei, W., et al. 2012. The breast cancer susceptibility gene product fibroblast growth factor receptor 2 serves as a scaffold for regulation of NF κ B signaling. *Mol. Cell. Biol.* 32: 4662-4673.
2. Yang, X., et al. 2018. Chaperonin-containing T-complex protein 1 subunit 8 promotes cell migration and invasion in human esophageal squamous cell carcinoma by regulating α -Actin and β -Tubulin expression. *Int. J. Oncol.* 52: 2021-2030.
3. Jin, X., et al. 2019. MicroRNA-105 promotes epithelial-mesenchymal transition of nonsmall lung cancer cells through upregulating Mcl-1. *J. Cell. Biochem.* 120: 5880-5888.
4. Xu, C., et al. 2020. N-glycosylated SGK196 suppresses the metastasis of basal-like breast cancer cells. *Oncogenesis* 9: 4.
5. Liu, M., et al. 2021. LncRNA LTSCCAT promotes tongue squamous cell carcinoma metastasis via targeting the miR-103a-2-5p/SMYD3/TWIST1 axis. *Cell Death Dis.* 12: 144.
6. Zada, S., et al. 2022. Autophagy-mediated degradation of NOTCH1 intracellular domain controls the epithelial to mesenchymal transition and cancer metastasis. *Cell Biosci.* 12: 17.
7. Liu, Z., et al. 2023. Selective formation of osteogenic and vasculogenic tissues for cartilage regeneration. *Adv. Healthc. Mater.* 12: e2202008.
8. Dragonetti, M., et al. 2024. The lncRNAMALAT1-WTAP axis: a novel layer of EMT regulation in hypoxic triple-negative breast cancer. *Cell Death Discov.* 10: 276.



See **Vimentin (E-5): sc-373717** for Vimentin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.