
anti-PTEN

Cat #: HM1291
Mouse monoclonal IgG
0.2 µg/µl, store at 4 °C

For research use only

BACKGROUND

PTEN is a tumor suppressor that is mutated in a large number of cancers. It exhibits a high frequency of mutations in human glioblastomas and is also mutated in other cancers, including sporadic brain, breast, kidney and prostate cancers. PTEN has been associated with Cowden disease, an autosomal dominant cancer predisposition syndrome. PTEN is a putative protein tyrosine phosphatase that is localized to the cytoplasm, and it shares extensive homology with the cytoskeletal proteins tensin and auxilin. Unlike most of the protein tyrosine phosphatases, PTEN preferentially dephosphorylates phosphoinositide substrates. It negatively regulates intracellular levels of phosphatidylinositol-3,4,5-trisphosphate in cells and functions as a tumor suppressor by negatively regulating AKT/PKB signaling pathway.

SPECIFICITY

This antibody reacts with PTEN of mouse, rat and human origin by Western blotting, immunoprecipitation and immunohistochemistry.

Recommended dilution for Western blotting: 1:1000. Molecular Weight of PTEN: 60 kDa. Western blotting positive controls: A-431 cell lysate.

IMMUNOGEN

Full-length recombinant human PTEN protein.

STORAGE

This antibody is stable for 12 months when stored at 2-8°C.

REFERENCES

1. Li, J., Yen, C., Liaw, D., Podsypanina, K., Bose, S., Wang, S.I., Puc, J., Miliaresis, C., Rodgers, L., McCombie, R., Bigner, S.H., Giovanella, B.C., Ittmann, M., Tycko, B., Hibshoosh, H., Wigler, M.H., and Parsons, R. 1997. PTEN, a putative protein tyrosine phosphatase gene mutated in human brain, breast, and prostate cancer. *Science* 275: 1943-1947.
2. Liaw, D., Marsh, D.J., Li, J., Dahia, P.L., Wang, S.I., Zheng, Z., Bose, S., Call, K.M., Tsou, H.C., Peacocke, M., Eng, C., and Parsons, R. 1997. Germline mutations of the PTEN gene in Cowden disease, an inherited breast and thyroid cancer syndrome. *Nat. Genet.* 16: 64-67.
3. Fumari, F.B., Lin, H., Huang, H.S., and Cavenee, W.K. 1997. Growth suppression of glioma cells by PTEN requires a functional phosphatase catalytic domain. *Proc. Natl. Acad. Sci. USA* 94: 12479-12484.
4. Kurose, K., Gilley, K., Matsumoto, S., Watson, P.H., Zhou, X.P. and Eng, C. (2002) Frequent somatic mutations in PTEN and TP53 are mutually exclusive in the stroma of breast carcinomas. *Nat. Genet.* 32, 355-357.

5. Torres, J., Rodriguez, J., Myers, M.P., Valiente, M., Graves, J.D., Tonks, N.K. and Pulido, R. (2003) Phosphorylation-regulated cleavage of the tumor suppressor PTEN by caspase-3: implications for the control of protein stability and PTEN-protein interactions. *J. Biol. Chem.* 278, 30652-30660.
6. Lu, Y., Yu, Q., Liu, J.H., Zhang, J., Wang, H., Koul, D., McMurray, J.S., Fang, X., Yung, W.K., Siminovitch, K.A. and Mills, G.B. (2003) Src family protein-tyrosine kinases alter the function of PTEN to regulate phosphatidylinositol 3-kinase/AKT cascades. *J. Biol. Chem.* 278, 40057-40066.
7. Raftopoulos, M., Etienne-Manneville, S., Self, A., Nicholls, S. and Hall, A. (2004) Regulation of cell migration by the C2 domain of the tumor suppressor PTEN. *Science* 303, 1179-1181.
8. Parsons, R. (2004) Human cancer, PTEN and the PI-3 kinase pathway. *Semin. Cell Dev. Biol.* 15, 171-176.

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