



Lipid Phosphatase PTEN

Product Data Sheet

For Research Use Only, Not for use in diagnostic procedures

Lipid Phosphatase PTEN

Human, recombinant protein expressed in *E. coli*, Active

Cat# CY-E1380

Amount: 25 µg (0.1 µg/µl)

Lot:

Specific Activity: 20 units/µg

Introduction:

PTEN, also known as phosphatase and tensin homolog, is one of the most frequently mutated tumor suppressors in human cancer and acts as both a dual-specificity protein phosphatase and a lipid phosphatase, removing the phosphate in the D3 position of the inositol ring from phosphatidylinositol 3,4,5-trisphosphate. It is the first phosphatase identified as a tumor suppressor. It may be involved in almost all types of cancer, both solid tumors and hematological malignancies. PTEN negatively regulates intracellular levels of phosphatidylinositol-3,4,5-trisphosphate in cells by serving to counter-balance the effects of PI3 Kinase, which normally generate PtdIns(3,4,5)P3 and acts as a tumor suppressor by negative regulation of AKT/PKB signaling pathway via preventing localization of proteins with pleckstrin homology domains to the cell membrane. Recent results indicate that at least part of its role is to regulate the activity of the serine/threonine kinase AKT/PKB, and thus influence cell survival signaling.

Product Description:

Human full length PTEN, containing an N- and C-terminal His tag, expressed in *E. coli*. and purified by chelating agarose chromatography.

Gene Information:

The gene accession number is NM_000314. The OMIM number is 601728.

Gene Aliases:

MMAC1

Formulation:

Recombinant PTEN is supplied frozen in a buffer containing 20mM Tris-HCl (pH 7.5), 50mM NaCl, 5 mM DTT, 1 mM EDTA and 50% glycerol. Use a same buffer for dilution when needed.

Molecular Weight:

Recombinant PTEN approximately 54 kDa band by SDS-PAGE analysis.

97 kDa--

66 kDa--

45 kDa--

31 kDa--

Coomassie blue stain



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Storage:

Store product at -70°C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, AVOID REPEATED HANDLING AND MULTIPLE FREEZE/THAW CYCLES.

Stability:

Unopened vial at -70 °C, for 1 year after delivery.

Unit Definitions:

One unit is defined as the amount of phosphatase required to release 1 nmol of phosphate from PtdIns(3,4,5)P3 per minute at 30°C. Specific Activity will vary among production lots.

References:

1. Li, J., et al., Science 275: 1943-1947, 1997.
2. Myers, M.P., et al., Proc. Natl. Acad. Sci. 95: 13513-13518, 1998.
3. Maehama T. and J.E. Dixon, J. Biol. Chem 273: 13375-13378, 1998.
4. Myers, M.P., et al., Proc. Natl. Acad. Sci. USA 94: 4052-4057, 1997.
5. Harder, K.W., et al., Biochem. J. 298: 395-401, 1994.

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