

PTEN

phosphatase and tensin homologue deleted on chromosome 10
human, recombinant, Sf21 cells

Cat. No.	Amount
PR-930	5 μ g

For *in vitro* use only
Quality guaranteed for 12 months
Store at -80°C

Avoid freeze / thaw cycles

Form

Liquid. Supplied in 50 mM sodium phosphate pH 7.2 containing 20% glycerol and 100mM sodium chloride.

Activity

1 μ g of recombinant human PTEN hydrolyzes a fluorogenic substrate (fluorescein diphosphate) releasing fluorescence (excitation/emission 490/514 nm) at 10 AFU/min.

Molecular Weight

48 kDa

Reaction conditions

20 μ M substrate (FDP), 50 mM imidazole pH 7.2, 200 μ M EGTA, 0.02% β -mercaptoethanol, 5 mM MgCl₂ and 0.1 mg/ml BSA at 37°C.

Purity

>95% by SDS-PAGE

Description

PTEN is one of the most frequently mutated tumor suppressors in human cancer.

PTEN is a dual-specificity phosphatase with both protein phosphatase and lipid phosphatase activity. 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.

The best described substrate of PTEN is phosphatidylinositol (3,4,5)-tris-phosphate (PtdIns(3,4,5)P₃). PTEN removes the phosphate in PtdIns(3,4,5)P₃ to generate PtdIns(4,5)P₂ and serves to counter-balance the effects of PI3 Kinase, which normally generate PtdIns(3,4,5)P₃. PTEN regulate the signaling pathway of PI3 Kinases by preventing localization of proteins with pleckstrin homology domains to the cell membrane.

Selected References:

- Stokoe *et al.* (2001) PTEN. *Curr. Biol.* **11**:R502.
Steelman *et al.* (2004) The complexity of PTEN: mutation, marker and potential target for therapeutic intervention. *Expert. Opin. Ther. Targets.* **8**:537.
Chu *et al.* (2004) PTEN regulatory functions in tumor suppression and cell biology. *Med. Sci. Monit.* **10**:RA235.
Dinulescu *et al.* (2005) Role of K-ras and Pten in the development of mouse models of endometriosis and endometrioid ovarian cancer. *Nat. Med.* **11**:63.