

#14171 Store at -20C

PNUTS Antibody

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R	Endogenous	115	Rabbit	#Q96QC0	5514

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Immunoprecipitation

1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

PNUTS Antibody recognizes endogenous levels of total PNUTS protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val380 of human PNUTS protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Protein phosphatase-1 nuclear targeting subunit (PNUTS) is one of the key regulators of protein phosphatase 1 (PP1) in the nucleus (1). Via interaction with PP1, PNUTS plays an essential role in multiple cellular processes, including chromatin decondensation (2), DNA damage response (3), and cardiomyocyte apoptosis (4). Notably, PNUTS also regulates the activity of two key tumor suppressors, Rb and p53, through inhibition of PP1 mediated dephosphorylation (5-7). Research studies indicate that PNUTS also sequesters PTEN in the nucleus through direct interaction and inhibits its tumor suppressor function (8). PNUTS is ubiquitously expressed and elevated PNUTS expression is observed in various cancers such as esophageal carcinoma, squamous cell carcinoma, and prostate cancer (1,8).

Background References

1. Allen, P.B. et al. (1998) *J Biol Chem* 273, 4089-95.
2. Landsverk, H.B. et al. (2005) *Biochem J* 390, 709-17.
3. Landsverk, H.B. et al. (2010) *EMBO Rep* 11, 868-75.
4. Boon, R.A. et al. (2013) *Nature* 495, 107-10.
5. Lee, S.J. et al. (2007) *Cell Death Differ* 14, 1106-16.
6. De Leon, G. et al. (2008) *Cancer Biol Ther* 7, 833-41.
7. Choy, M.S. et al. (2014) *Proc Natl Acad Sci U S A* 111, 4097-102.
8. Kavela, S. et al. (2013) *Cancer Res* 73, 205-14.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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