

**Prostatic Acid Phosphatase (D3Y5P)
Rabbit mAb****Orders:** 877-616-CELL (2355)
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-P	H	Endogenous	50	Rabbit IgG	#P15309	55

Product Usage Information**Application**Western Blotting
Immunohistochemistry (Paraffin)**Dilution**1:1000
1:600**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #46134.

Specificity/Sensitivity

Prostatic Acid Phosphatase (D3Y5P) Rabbit mAb recognizes endogenous levels of total ACPP protein. The antibody is predicted to detect both the cellular and secreted isoforms of ACPP.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant human full-length prostatic acid phosphatase.

Background

Prostatic Acid Phosphatase (ACPP or PAP) is a member of the histidine acid phosphatase family. It is a non-specific phosphatase that is capable of dephosphorylating tyrosine residues as well as phospholipids under mildly acidic conditions. ACPP has ecto-5'-nucleotidase activity in pain-sensing neurons where it converts AMP to adenosine, suppressing the pain response (1,2). ACPP occurs as two isoforms that are both heavily glycosylated. The secreted phosphatase (sPAP) is found predominantly in the prostate and seminal plasma, while the cellular isoform (cPAP) is broadly expressed at very low levels and is associated with the plasma and lysosomal membranes (3-5). Cellular PAP has been shown to dephosphorylate ErbB2 at various tyrosine residues effectively terminating signaling (6). Furthermore, the physical interaction between cPAP and ErbB2 appears to regulate androgen sensitivity in prostate cancer cells. Loss of cPAP in androgen-sensitive prostate cancer cells results in the development of a castration-resistant phenotype suggesting that ACPP plays a significant role in prostate cancer cell growth (7). ACPP is expressed in metastatic cells arising from prostate cancer - especially in prostate-derived bone metastasis - suggesting that it may be a relevant diagnostic indicator of prostate cancer re-emergence in bone (8).

Background References

1. Street, S.E. et al. (2013) *J Neurosci* 33, 11314-22.
2. Street, S.E. et al. (2011) *Mol Pain* 7, 80.
3. Tanaka, M. et al. (2004) *FEBS Lett* 571, 197-204.
4. Quintero, I.B. et al. (2007) *Cancer Res* 67, 6549-54.
5. Graddis, T.J. et al. (2011) *Int J Clin Exp Pathol* 4, 295-306.
6. Chuang, T.D. et al. (2010) *J Biol Chem* 285, 23598-606.
7. Muniyan, S. et al. (2013) *Int J Mol Sci* 14, 10438-64.
8. Kirschenbaum, A. et al. (2011) *Ann N Y Acad Sci* 1237, 64-70.

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****W:** Western Blotting **IHC-P:** Immunohistochemistry (Paraffin)**Cross-Reactivity Key****H:** Human**Trademarks and Patents**

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