Prostatic Acid Phosphatase (D3Y5P) Rabbit mAb

Applications | Species Cross-Reactivity* | Molecular Wt. | Isotype | \( \text{H} \) 50 kDa \( \text{Rabbit IgG}^* \)
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Endogenous | Human | | |
W, IHC-P | All species expected | | |

**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 re-emergence in bone (8).

**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.

**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.

**Recommended Antibody Dilutions:**
- Western blotting: 1:1000
- Immunohistochemistry (Paraffin): 1:600†

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**Entrez Gene ID:** 55
**UniProt ID:** #P15309

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

**For product specific protocols please see the web page for this product at www.cellsignal.com.**

**Background References:**

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