

Mouse Prostatic Acid Phosphatase / ACP_P Protein (His Tag)

Catalog Number: 51018-M08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

5'-NT; 9.104100899-104272570.1; A030005E02Rik; FRAP; Lap; PAP; Ppal

Protein Construction:

A DNA sequence encoding the mouse ACP_P isoform 1 (Q8CE08-1) (Met1-Arg 381) was expressed, with a C-terminal polyhistidine tag.

Source: Mouse

Expression Host: HEK293 Cells

QC Testing

Purity: > 98 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Lys 32

Molecular Mass:

The recombinant mouse ACP_P consists of 361 amino acids and predicts a molecular mass of 42 KDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rmACP_P is approximately 47 KDa as a result of glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

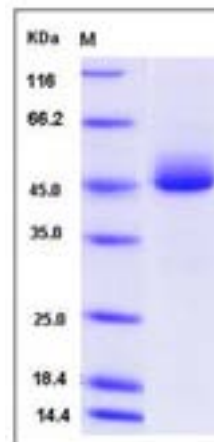
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Prostatic acid phosphatase (PAP, or ACP_P), also known as prostatic specific acid phosphatase (PSAP), is an enzyme produced by the prostate. As a non-specific phosphomonoesterase, Prostatic acid phosphatase synthesized and secreted into seminal plasma under androgenic control. The enzyme is a dimer of molecular weight around 100 kDa. Prostatic acid phosphatase is a clinically important protein for its relevance as a biomarker of prostate carcinoma. Furthermore, it has a potential role in fertilization. The major action of PAP is to dephosphorylate macromolecules with the help of catalytic residues (His(12) and Asp(258)) that are located in the cleft between two domains. Cellular prostatic acid phosphatase (cPACP), an authentic tyrosine phosphatase, is proposed to function as a negative growth regulator of prostate cancer (PCa) cells in part through its dephosphorylation of ErbB-2. cPACP functions as a neutral protein tyrosine phosphatase (PTP) in prostate cancer cells and dephosphorylates HER-2/ErbB-2/Neu (HER-2: human epidermal growth factor receptor-2) at the phosphotyrosine (p-Tyr) residues. Injection of the secretory isoform of PAP has potent antinociceptive effects in mouse models of chronic pain. This enzyme exhibits ecto-5'-nucleotidase activity, is widely distributed, and implicated in the formation of chronic pain. Additionally, PAP could be a target molecule in specific immunotherapy for patients with nonprostate adenocarcinomas including colon and gastric cancers.

References

- 1.Hassan MI, *et al.* (2010) Structural and functional analysis of human prostatic acid phosphatase. *Expert Rev Anticancer Ther.* 10(7): 1055-68.
- 2.Chuang TD, *et al.* (2010) Human prostatic acid phosphatase, an authentic tyrosine phosphatase, dephosphorylates ErbB-2 and regulates prostate cancer cell growth. *J Biol Chem.* 285(31): 23598-606.
- 3.Larsen RS, *et al.* (2009) A high throughput assay to identify small molecule modulators of prostatic acid phosphatase. *Curr Chem Genomics.* 3: 42-9.

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