ACPP/Prostatic Acid Phosphatase Protein, Mouse (HEK293, His)

Cat. No.:	HY-P74430
Synonyms:	ACP-3; ACPP; Prostatic Acid Phosphatase; PAPf39; PAP
Species:	Mouse
Source:	HEK293
Accession:	Q8CE08 (K32-R381)
Gene ID:	56318
Molecular Weight:	Approximately 44-55 kDa due to the glycosylation.

PROPERTIES

AA Sequence	K E L K F V T L V F R H G D R G P I E T F P T D P I T E S S W P Q G F G Q L T Q W G M E Q H Y E L G S Y I R K R Y G R F L N D T Y K H D Q I Y I R S T D V D R T L M S A M T N L A A L F P P E G I S I W N P R L L W Q P I P V H T V S L S E D R L L Y L P F R D C P R F E E L K S E T L E S E E F L K R L H P Y K S F L D T L S S L S G F D D Q D L F G I W S K V Y D P L F C E S V H N F T L P S W A T E D A M I K L K E L S E L S L L S L Y G I H K Q K E K S R L Q G G V L V N E I L K N M K L A T Q P Q K Y K K L V M Y S A H D T T V S G L Q M A L D V Y N G V L P P Y A S C H M M E L Y H D K G G H F V E M Y Y R N E T Q N E P Y P L T L P G C T H S C P L E K F A E L L D P V I S Q D W A T E C M A T S S H Q V L R
Biological Activity	Measured by its ability to cleave 2mM substrate p-Nitrophenyl phosphate (pNPP). which can be measured by absorbance at 410 nm that incubate at room temperature for 5 minutes. The specific activity is 104600.068 pmol/min/μg, as measured under the described conditions.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Prostatic Acid Phosphatase (ACPP) protein serves as a versatile non-specific tyrosine phosphatase, exhibiting its catalytic activity under acidic conditions (pH 4-6) on a broad range of substrates, including alkyl, aryl, and acyl orthophosphate monoesters, as well as phosphorylated proteins. Notably, ACPP also displays lipid phosphatase activity, contributing to the inactivation of lysophosphatidic acid in seminal plasma. Beyond its tyrosine phosphatase functions, ACPP demonstrates ecto-5'-nucleotidase activity in dorsal root ganglion neurons, leading to the generation of adenosine from AMP. This extracellular adenosine, in turn, contributes to a reduction in chronic pain by activating A1R in nociceptive neurons. The multifaceted enzymatic activities of ACPP highlight its potential significance in various cellular processes and its therapeutic implications, particularly in pain management.

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