

Human Alkaline Phosphatase / ALPL Protein (His Tag)

Catalog Number: 10440-H08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

AP-TNAP; APTNAP; HOPS; TNAP; TNSALP; Akp-2; Akp2; APTNAP; TNAP; TNSALP

Protein Construction:

A DNA sequence encoding the human tissue-nonspecific alkaline phosphatase (NP_000469.3) (Met 1-Ser 502) was expressed with a C-terminal polyhistidine tag.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to cleave a fluorogenic substrate, 4-Methylumbelliferyl phosphate (4-MUP). The specific activity is > 50,000 pmoles/min/μg.

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: Leu 18

Molecular Mass:

The recombinant human ALPL consists of 496 amino acids and predicts a molecular mass of 55 kDa. As a result of glycosylation, rhALPL migrates as approximately 65 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 25mM Tris, 0.15M NaCl, pH 7.5

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:

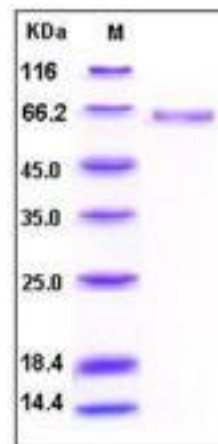
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Alkaline phosphatase (ALPL) is a hydrolase enzyme responsible for removing phosphate groups from many types of molecules, including nucleotides, proteins, and alkaloids. The process of removing the phosphate group is called dephosphorylation. As the name suggests, alkaline phosphatases are most effective in an alkaline environment. It is sometimes used synonymously as basic phosphatase. Alkaline phosphatases (APs) are ubiquitous in many species, from bacteria to human. Four genes encode AP isoenzymes in humans and rodents. Three AP genes are expressed in a tissue-specific manner (i.e., placental, embryonic, and intestinal AP isoenzymes). Expression of the fourth AP gene is nonspecific to a single tissue and is especially abundant in bone, liver, and kidney. This isoenzyme is also called tissue-nonspecific alkaline phosphatase (TNAP). The enzyme tissue non-specific alkaline phosphatase (TNAP) belongs to the ectophosphatase family. TNAP is present in large amounts in bone in which it plays a role in mineralization.

References

1. Brun-Heath I, *et al.* (2011) Differential expression of the bone and the liver tissue non-specific alkaline phosphatase isoforms in brain tissues. *Cell Tissue Res.* 343(3): 521-36.
2. Whyte MP, *et al.* (1995) Alkaline phosphatase: placental and tissue-nonspecific isoenzymes hydrolyze phosphoethanolamine, inorganic pyrophosphate, and pyridoxal 5-phosphate. *J Clin Invest.* 95: 1440-5.
3. Whyte MP. (1994) Hypophosphatasia and the role of alkaline phosphatase in skeletal mineralization. *Endocrinol Rev.* 4: 439-61.

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