

Human Alkaline Phosphatase / ALPL Protein (His Tag)

Catalog Number: 10440-H08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ALPL, AP-TNAP, FLJ40094, FLJ93059, HOPS, MGC161443, MGC167935, 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 and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

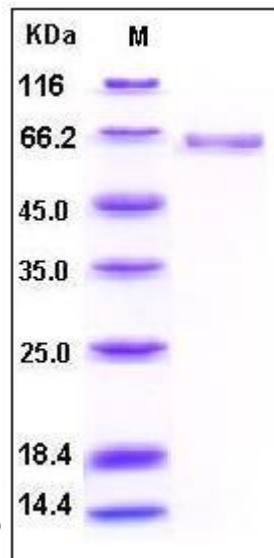
Usage Guide

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.

SDS-PAGE:



Reconstitution:

Detailed reconstitution

with the products.

Protein Description

Alkaline phosphatases (APs) are dimeric enzymes present in most, if not all, organisms. They catalyze the hydrolysis of phosphomonoesters with release of inorganic phosphate. There are at least four distinct but related alkaline phosphatases in humans: three isozymes with 90-98% homologue are tissue-specific, i.e. intestinal AP (IAP), placental AP (PLAP), and germ cell AP (GCAP) and their genes are clustered on chromosome 2; while the tissue-nonspecific isozyme (TNAP), also termed as ALPL with about 50% homologue is expressed in a variety of tissues throughout development and is located on chromosome 1. The native ALPL is a glycosylated homodimer attached to the membrane through a GPI-anchor. Mutations in ALPL gene have been linked directly to hypophosphatasia, a heritable metabolic bone disorder characterized by defective bone mineralization and hypercalcemia, and this disorder can vary depending on the specific mutation since this determines age of onset and severity of symptoms.

References

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2. Henthorn, PS. et al., 1992, Proc. Natl. Acad. Sci. USA. 89: 9924-9928.
3. Le Du, MH. et al., 2002, J. Biol. Chem. 277: 49808-49814.
4. Mornet, E. 2000, Hum. Mutat. 15: 309-315.
5. Peach, CA. et al., 2007, Rheumatology. 46: 1037-1040.

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