Data Sheet (Cat.No.TMPY-07019)

TargetMol

Alkaline Phosphatase/ALPL Protein, Human, Recombinant (Avi), Biotinylated

General Information

Synonyms:	HPPI;HOPS;HPPA;HPPO;APTNAP;HPPC;TNALP;TNSALP;AP-TNAP;TNAP;TNS-ALP
Protein Construction:	A DNA sequence encoding the Human ALPL (NP_000469.3) (Met1-Ser502) was fused with an AVI tag at the C-terminus. The expressed protein was biotinylated in vivo by the Biotin-Protein ligase (BirA enzyme) which is co-expressed.
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P05186-1
Molecular Weight:	55.21 kDa (predicted); 63.3 kDa (reducing contition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 90% as determined by SDS-PAGE. ≥ 95% as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from sterile 20 mM HEPES, 150 mM NaCl, 2 mM MgSO4, 0.1 mM ZnCl2, 0.1M Arg, pH 7.5. Please contact us for any concerns or special requirements. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hardcopy of datasheet or the lot-specific COA.

Preparation and Storage

Reconstitution:

Please refer to the lot-specific COA.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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.

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