Recombinant PPBT protein (His tag)

Catalog Number	546684
Synonyms	AP-TNAP; TNS-ALP; TNSALP; Alkaline phosphatase liver/bone/kidney isozyme; Phosphoamidase; Phosphocreatine phosphatase
Species	Human
Expression System	E. coli
Accession	P05186
Molecular Weight	Predictes a molecular mass of 54.96 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 55 kDa band.

Product Information

Sequence Region	18-501
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 18-501 aa (P05186) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Alkaline Phosphatase, Tissue-Nonspecific Isozyme (AP-TNAP) Fragment (residues 18-501) is a high-purity, soluble protein designed for structural and biochemical studies. This 484-amino acid fragment retains key functional domains and is ideal for investigating phosphate metabolism, skeletal mineralization, and thermogenic regulation. Alkaline phosphatase, tissue-nonspecific isozyme (AP-TNAP), encoded by the ALPL gene, is a multifunctional enzyme critical for skeletal and dental mineralization through hydrolysis of inorganic pyrophosphate—a potent mineralization inhibitor—thereby promoting hydroxyapatite crystal formation. It also dephosphorylates pyridoxal 5'-phosphate (PLP) to pyridoxal, facilitating vitamin B6 transport in the brain, and participates in the futile creatine cycle in thermogenic fat cells to regulate adaptive thermogenesis by hydrolyzing N-phosphocreatine. The enzyme localizes to the cell membrane via a GPI-anchor and is found in extracellular vesicles (e.g., matrix vesicles) and mitochondrial membranes, where it influences energy dissipation and neurotransmitter synthesis. This recombinant fragment (18-501) encompasses the core functional region, enabling research into its enzymatic mechanisms and physiological roles without the full-length protein's membrane-associated complexities.