



# Recombinant Protein Technical Manual

**Recombinant Human Alkaline Phosphatase/ALPL  
Protein (His Tag)(Active)**  
RPES3139

## Product Data:

**Product SKU:** RPES3139

**Size:** 10µg

**Species:** Human

**Expression host:** HEK293 Cells

**Uniprot:** NP\_000469.3

## Protein Information:

**Molecular Mass:** 55 kDa

**AP Molecular Mass:** 65 kDa

**Tag:** C-His

**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.

**Purity:** > 95 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

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

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Alkaline Phosphatase; Tissue-Nonspecific Isozyme; AP-TNAP; TNSALP; Alkaline Phosphatase Liver/Bone/Kidney Isozyme; ALPL;HOPS;TNAP

## Immunogen Information:

**Sequence:** Met 1-Ser 502

## 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.