

# Human ALPP Protein; His Tag

## Product Information

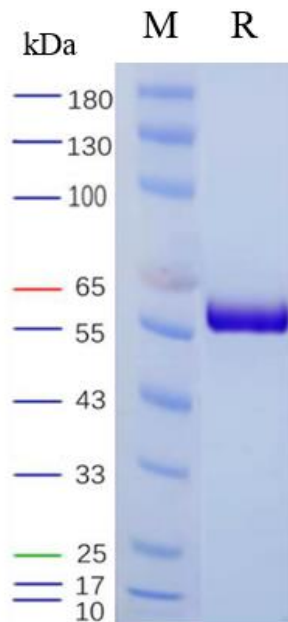
Product Name	Human ALPP Protein; His Tag
Storage temp.	Store at $\leq -70^{\circ}\text{C}$ , stable for 6 months after receipt. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.
Catalog# / Size	GM-84415RP-100 / 100 $\mu\text{g}$ GM-84415RP-1000 / 1 mg

## Protein Information

Alternative Names	PLAP, PLAP-1, ALPP
Source	Human ALPP Protein; His Tag (GM-84415RP) is expressed from human 293 cells (HEK-293). It contains AA Ile23-Asp506 (Accession # P05187-1). This protein carries a His tag at the C-terminus.
Purity	> 95% as determined by SDS-PAGE
Endotoxin	< 1 EU/ $\mu\text{g}$ , determined by LAL gel clotting assay
Predicted Mol Mass	54.7 KDa
Formulation	Supplied as a 0.2 $\mu\text{m}$ filtered solution of PBS, pH7.4.
Description	PLAP is the abbreviation for Placental alkaline phosphatase, which is an enzyme protein. PLAP is highly expressed in placental tissue, hence its name. The human placental ALP (PLAP) gene was identified on chromosome 2 and possesses 87% similarity with IAP gene. Interestingly, cancer cells can re-express PLAP gene as Regan isoenzyme. In contrast to the other ALP isoenzymes, PLAP is a polymorphic enzyme with up to 18 allelozymes originating from point mutations. As a result of the low catalytic activity in comparison with the other isoenzymes, PLAP is considered to be inefficient due to the neutral pH of placenta. Furthermore, the structure of PLAP consists of two disulfide bridges: the first one stabilises the PLAP orientation, which is situated near the anchor of the Asp481 Glycosylphosphatidylinositol (GPI) and the second stiffens the anchor of the carbohydrate chain and is situated close the first part of the glycosylation. There are several roles by PLAP, including the transmission of mother-to-fetus immunoglobulins G (IgG). PLAP stimulates DNA synthesis and fibroblast cell proliferation with insulin in the presence of $\text{Zn}^{2+}$ and $\text{Ca}^{2+}$ . It is a synthesiser for a single tissue called syncytiotrophoblast and responsible for transfer of substances such as nutrients and oxygen. PLAP is an essential modulator of foetal growth. PLAP is also a potential marker for various cancers.

Version:3.3

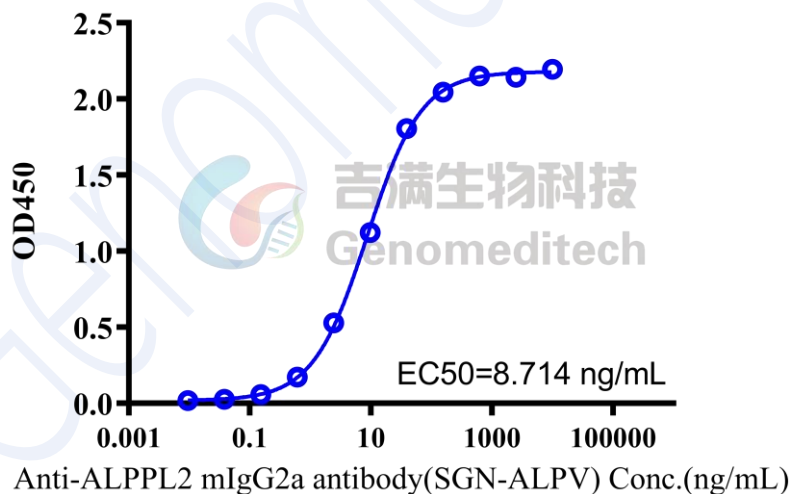
## SDS-PAGE



On SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

## Bioactivity-ELISA

### Human ALPP Protein; His Tag ELISA 0.1 $\mu$ g Human ALPP Protein; His Tag of per well



Human ALPP Protein; His Tag (Catalog # GM-84415RP) was immobilized at 1  $\mu$ g/ml (100  $\mu$ L/well). Increasing concentrations of Anti-ALPPL2 mIgG2a antibody(SGN-ALPV) (Catalog # GM-58773AB) were added.