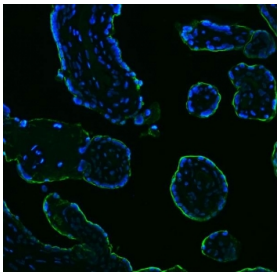
Placental Alkaline Phosphatase Antibody Clone 6C7G3 / ALPP / PLAP [clone 6C7G3] (RQ6933)

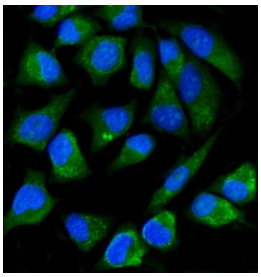
Catalog No.	Formulation	Size
RQ6933	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

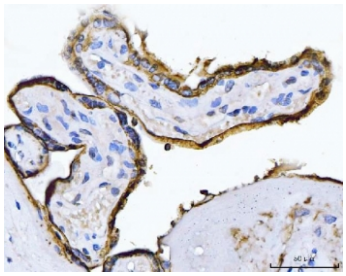
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	6C7G3
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P05187
Localization	Cytoplasmic and cell surface
Applications	Western Blot : 0.5-1 ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This Placental Alkaline Phosphatase antibody is available for research use only.



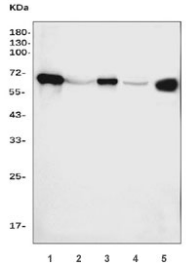
Immunofluorescence of Placental Alkaline Phosphatase Antibody Clone 6C7G3 in human placenta. Formalin-fixed, paraffin-embedded human placental tissue demonstrates strong membranous fluorescence in syncytiotrophoblastic cells (green), outlining chorionic villi structures. Nuclei are counterstained with DAPI (blue). Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 min followed by cooling prior to antibody incubation.



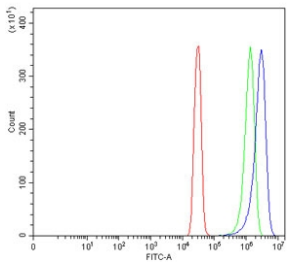
Immunofluorescent staining of FFPE human HeLa cells with Placental Alkaline Phosphatase antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



Immunohistochemistry of Placental Alkaline Phosphatase Antibody Clone 6C7G3 in human placenta. Formalin-fixed, paraffin-embedded human placental tissue shows strong HRP-DAB brown membranous staining in syncytiotrophoblastic cells lining chorionic villi, consistent with surface localization of placental alkaline phosphatase. Stromal cores display minimal staining. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 min followed by cooling prior to antibody incubation.



Western blot testing of human 1) placenta, 2) HepG2, 3) A431, 4) HeLa and 5) SW620 cell lysate with Placental Alkaline Phosphatase antibody 6C7G3. Predicted molecular weight ~58 kDa but routinely visualized at 60-70 kDa.



Flow cytometry testing of human SiHa cells with Placental Alkaline Phosphatase antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Placental Alkaline Phosphatase antibody.

Description

Placental alkaline phosphatase is a glycosylphosphatidylinositol-anchored membrane enzyme encoded by the ALPP gene and commonly referred to as PLAP. The Placental Alkaline Phosphatase Antibody Clone 6C7G3 is a mouse monoclonal antibody developed to detect this trophoblast-associated alkaline phosphatase in tissue-based research applications. ALPP is located on chromosome 2q37 and belongs to the alkaline phosphatase family of homodimeric metalloenzymes that hydrolyze phosphate monoesters under alkaline conditions.

In normal physiology, placental alkaline phosphatase is strongly expressed on the apical membrane of syncytiotrophoblasts in placental tissue, producing a distinct membranous staining pattern in chorionic villi. Because the enzyme is anchored to the outer surface of the plasma membrane through a glycosylphosphatidylinositol linkage, immunohistochemical detection typically demonstrates crisp membranous labeling in trophoblastic cells, while underlying stromal elements remain largely negative. Expression in most non-placental adult tissues is limited, supporting its utility as a lineage-associated marker in histologic evaluation.

In tumor biology research, PLAP expression has been widely examined in germ cell tumors, particularly seminoma and embryonal carcinoma, as well as in certain trophoblastic neoplasms. In these malignancies, strong membranous and sometimes cytoplasmic staining is observed in tumor epithelial cells, whereas most non-germ cell carcinomas show

minimal or absent staining. This relatively restricted expression profile enhances its value in studies focused on tumor classification and germ cell differentiation within tissue sections.

Although placental alkaline phosphatase shares structural homology with other alkaline phosphatase isoenzymes such as tissue-nonspecific and intestinal forms, its trophoblastic and germ cell-associated distribution is more defined. Clone 6C7G3 is a mouse monoclonal antibody developed for detection of PLAP in formalin-fixed, paraffin-embedded specimens, supporting research into placental biology, germ cell tumor characterization, and membrane-associated enzyme localization.

For a clone-defined placental marker antibody with extensive placenta-positive and normal tissue-negative immunohistochemistry validation data, see our ALPP Antibody / Placental Marker Antibody page featuring clone rALP/870.

Application Notes

Optimal dilution of the Placental Alkaline Phosphatase antibody should be determined by the researcher.

Immunogen

C-terminal amino acids KARDRKAYTVLLYGNGPGYVLKDGARPDVTE were used as the immunogen for the Placental Alkaline Phosphatase antibody clone 6C7G3.

Storage

After reconstitution, the Placental Alkaline Phosphatase antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.