

PLAP (C-20): sc-15067

BACKGROUND

Alkaline phosphatases (AP) are glycosyl-phosphatidylinositol (GPI)-anchored, dimeric, Zn²⁺ metallated glycoproteins that catalyze the hydrolysis of phospho-monoesters into an inorganic phosphate and an alcohol. Placental alkaline phosphatase, also designated ALPP, PLAP, PALP, placental ALP-1 or Regan isozyme, is a 530-amino acid, tissue-specific AP that is expressed in the placenta and the serum of pregnant women, and is ectopically expressed in various cancers, including those of the ovary and testis. PLAP may assist in guiding migratory cells and transporting specific molecules, such as fatty acids and immunoglobulins, across the plasma membrane. The three tissue-specific APs identified in human, PLAP, germ cell AP (GCAP) and intestinal AP, are 90-98% homologous and their genes are clustered on chromosome 2q.

REFERENCES

1. Travers, P. and Bodmer, W. 1984. Preparation and characterization of monoclonal antibodies against placental alkaline phosphatase and other human trophoblast-associated determinants. *Int. J. Cancer* 33: 633-641.
2. Epenetos, A.A., et al. 1984. An immunohistological study of testicular germ cell tumours using two different monoclonal antibodies against placental alkaline phosphatase. *Br. J. Cancer* 49: 11-15.
3. Tucker, D.F., et al. 1985. Serum marker potential of placental alkaline phosphatase-like activity in testicular germ cell tumours evaluated by H17E2 monoclonal antibody assay. *Br. J. Cancer* 51: 631-639.
4. Epenetos, A.A., et al. 1985. Monoclonal antibody assay of serum placental alkaline phosphatase in the monitoring of testicular tumours. *Br. J. Cancer* 51: 641-644.
5. Moss, D.W. 1987. Diagnostic aspects of alkaline phosphatase and its isoenzymes. *Clin. Biochem.* 20: 225-230.
6. Griffin, C.A., et al. 1987. Human placental and intestinal alkaline phosphatase genes map to 2q34-q37. *Am. J. Hum. Gen.* 41: 1025-1034.
7. Aizawa, K., et al. 1989. Placental alkaline phosphatase-like isoenzymes produced by human gastric cancer cells. *Acta Pathol. Jpn.* 39: 630-637.

CHROMOSOMAL LOCATION

Genetic locus: ALPP/ALPP2 (human) mapping to 2q37.1.

SOURCE

PLAP (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PLAP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-15067 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

PLAP (C-20) is recommended for detection of PLAP and ALPL2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

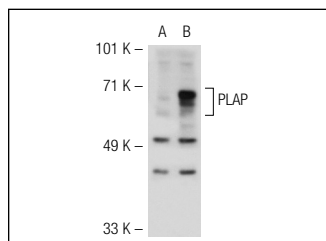
Molecular Weight of PLAP: 70 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, PLAP (h): 293T lysate: sc-113546 or JEG-3 whole cell lysate: sc-364255.

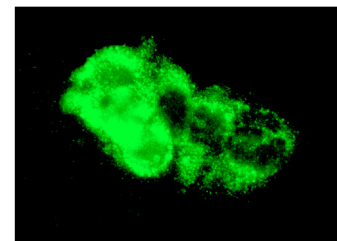
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PLAP (C-20): sc-15067. Western blot analysis of PLAP expression in non-transfected: sc-117752 (A) and human PLAP transfected: sc-113546 (B) 293T whole cell lysates.



PLAP (C-20): sc-15067. Immunofluorescence staining of methanol-fixed Hep G2 cells showing cytoplasmic localization.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **PLAP (8B6): sc-47691** or **PLAP (HD 11F7): sc-53414**, our highly recommended monoclonal alternatives to PLAP (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PLAP (8B6): sc-47691**.