

PLAP (HD 11F7): sc-53414

BACKGROUND

Alkaline phosphatases (AP) are glycosylphosphatidylinositol (GPI)-anchored, dimeric, Zn²⁺-metallated glycoproteins that catalyze the hydrolysis of phosphomonoesters into an inorganic phosphate and an alcohol. Placental alkaline phosphatase (also known as PLAP, ALPP, PALP, placental ALP-1 or Regan isozyme) is a 530 amino acid, tissue-specific AP that is expressed in the placenta, the serum of pregnant women and 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.
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6. Griffin, C.A., et al. 1987. Human placental and intestinal alkaline phosphatase genes map to 2q34-q37. *Am. J. Hum. Genet.* 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.
8. Fiske, J., et al. 1989. Serum placental-like alkaline phosphatase (PLAP): a novel combined enzyme linked immunoassay for monitoring ovarian cancer. *J. Clin. Pathol.* 42: 40-45.
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CHROMOSOMAL LOCATION

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

SOURCE

PLAP (HD 11F7) is a mouse monoclonal antibody raised against Hep-2 cells expressing PLAP surface protein of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PLAP (HD 11F7) is recommended for detection of PLAP 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PLAP siRNA (h): sc-38919, PLAP shRNA Plasmid (h): sc-38919-SH and PLAP shRNA (h) Lentiviral Particles: sc-38919-V.

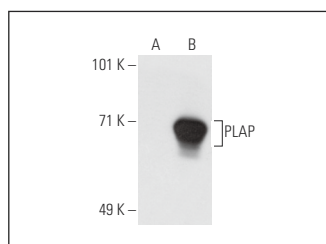
Molecular Weight of PLAP: 70 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, PLAP (h): 293T lysate: sc-113546 or JAR cell lysate: sc-2276.

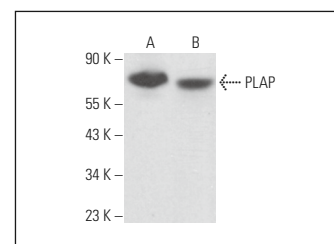
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PLAP (HD 11F7): sc-53414. Western blot analysis of PLAP expression in non-transfected: sc-117752 (A) and human PLAP transfected: sc-113546 (B) 293T whole cell lysates.



PLAP (HD 11F7): sc-53414. Western blot analysis of PLAP expression in HeLa (A) and OVCAR-3 (B) whole cell lysates.

STORAGE

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

RESEARCH USE

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



See **PLAP (8B6): sc-47691** for PLAP antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.