

PLAP (8B6): sc-47691

BACKGROUND

Alkaline phosphatases (AP) are glycosyl-phosphatidylinositol (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.

CHROMOSOMAL LOCATION

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

SOURCE

PLAP (8B6) is a mouse monoclonal antibody raised against whole cells (Hep-2) expressing placental alkaline phosphatase.

PRODUCT

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

PLAP (8B6) is available conjugated to agarose (sc-47691 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-47691 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47691 PE), fluorescein (sc-47691 FITC), Alexa Fluor® 488 (sc-47691 AF488), Alexa Fluor® 546 (sc-47691 AF546), Alexa Fluor® 594 (sc-47691 AF594) or Alexa Fluor® 647 (sc-47691 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-47691 AF680) or Alexa Fluor® 790 (sc-47691 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PLAP (8B6) is recommended for detection of PLAP of human origin by Western Blotting (starting dilution 1:50, dilution range 1:50-1:1000), 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 immunohistochemistry (including paraffin-embedded sections) (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, MCF7 whole cell lysate: sc-2206 or human placenta extract: sc-363772.

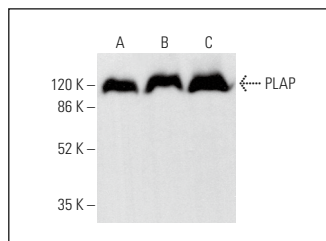
RESEARCH USE

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

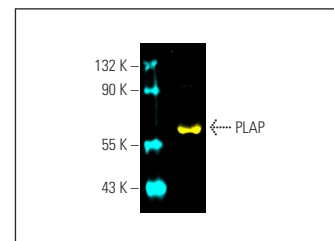
STORAGE

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

DATA



PLAP (8B6): sc-47691. Western blot analysis of PLAP expression in MCF7 (A) and HeLa (B) whole cell lysates and human placenta tissue extract (C). Detection reagent used: m-IgGκ BPHRP: sc-516102.



PLAP (8B6) Alexa Fluor® 488: sc-47691 AF488. Direct fluorescent western blot analysis of PLAP expression in human placenta tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 647: sc-516791.

SELECT PRODUCT CITATIONS

1. Carosino, M., et al. 2008. Exon loss accounts for differential sorting of Na-K-Cl cotransporters in polarized epithelial cells. *Mol. Biol. Cell* 19: 4341-4351.
2. Taylor, D.D., et al. 2011. Exosome isolation for proteomic analyses and RNA profiling. *Methods Mol. Biol.* 728: 235-246.
3. Jørgensen, M., et al. 2013. Extracellular vesicle (EV) array: microarray capturing of exosomes and other extracellular vesicles for multiplexed phenotyping. *J. Extracell. Vesicles* 2: 1-9.
4. Wang, R., et al. 2014. Live cell imaging of *in vitro* human trophoblast syncytialization. *Biol. Reprod.* 90: 117.
5. Jakobsen, K.R., et al. 2015. Exosomal proteins as potential diagnostic markers in advanced non-small cell lung carcinoma. *J. Extracell. Vesicles* 4: 26659.
6. Sandfeld-Paulsen, B., et al. 2016. Exosomal proteins as diagnostic biomarkers in lung cancer. *J. Thorac. Oncol.* 11: 1701-1710.
7. Suzuki, E., et al. 2020. Detailed analyses of the crucial functions of Zn transporter proteins in alkaline phosphatase activation. *J. Biol. Chem.* 295: 5669-5684.
8. Rajaratnam, N., et al. 2021. Extracellular vesicles: an important biomarker in recurrent pregnancy loss? *J. Clin. Med.* 10: 2549.
9. Hsu, K.S., et al. 2022. Cancer cell survival depends on collagen uptake into tumor-associated stroma. *Nat. Commun.* 13: 7078.

PROTOCOLS

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