BACKGROUND

Alkaline phosphatases (AP) are glycosyl-phosphatidylinositol (GPI)-anchored, dimeric, Zn\(^{2+}\)-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 immuno-globulins, 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


CHROMOSOMAL LOCATION

Genetic locus: ALPP/ALPPL2/ALPI (human) mapping to 2q37.1; Alpl (mouse) mapping to 4 D3, Alpl2/Alpi (mouse) mapping to 1 D.

SOURCE

Alkaline Phosphatase (G-9) is a mouse monoclonal antibody raised against amino acids 31-330 mapping near the N-terminus of PLAP of human origin.

PRODUCT

Each vial contains 200 µg IgG\(_{\kappa}\) kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Alkaline Phosphatase (G-9) is recommended for detection of PLAP, ALPPL2 and IAP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 Alkaline Phosphatase: 70 kDa.

Positive Controls: PLAP (h): 293T Lysate: sc-113546 or human placenta extract: sc-363772.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG \(_{\kappa}\)BP-HRP: sc-516102 or m-IgG \(_{\kappa}\)BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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 m-IgG BP-FITC: sc-516140 or m-IgG 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

Alkaline Phosphatase (G-9): sc-398461. Western blot analysis of PLAP expression in non-transfected: sc-117752 (A) and human PLAP transfected: sc-113546 (B) 293T whole cell lysates and human placenta tissue extract (C).

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.

CONJUGATES

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