SANTA CRUZ BIOTECHNOLOGY, INC.

Alkaline Phosphatase (H-330): sc-28904

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 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.

CHROMOSOMAL LOCATION

Genetic locus: ALPP/ALPPL2/ALPI (human) mapping to 2q37.1; Alpl (mouse) mapping to 4 D3, Alppl2/Alpi (mouse) mapping to 1 D.

SOURCE

Alkaline Phosphatase (H-330) is a rabbit polyclonal antibody raised against amino acids 31-330 mapping near the N-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.

APPLICATIONS

Alkaline Phosphatase (H-330) is recommended for detection of PLAP, ALPPL2 and IAP of human origin and and Akp-3, Akp-5 and Akp-6 of mouse and rat origin of mouse, rat and 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); may cross-react with other alkaline phosphatases.

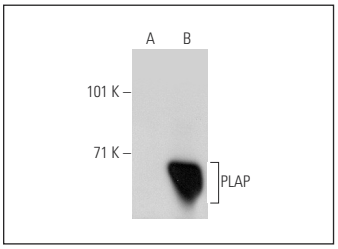
Molecular Weight of Alkaline Phosphatase: 70 kDa.

Positive Controls: PLAP (h): 293T Lysate: sc-113546, mouse heart extract: sc-2254 or human adrenal gland extract: sc-363761.

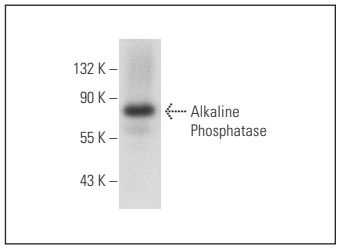
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Alkaline Phosphatase (H-330): sc-28904. Western blot analysis of Alkaline Phosphatase expression in non-transfected: sc-117752 (**A**) and human PLAP transfected: sc-113546 (**B**) 293T whole cell lysates.



Alkaline Phosphatase (H-330): sc-28904. Western blot analysis of Alkaline Phosphatase expression in human adrenal gland tissue extract.

SELECT PRODUCT PRODUCT

1. Akiyama, K., et al. 2012. Lineage differentiation of mesenchymal stem cells from dental pulp, apical papilla, and periodontal ligament. Methods Mol. Biol. 887: 111-121.

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.

PROTOCOLS

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