**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. There are at least four distinct but related alkaline phosphatases: intestinal (IAP), placental (PLAP), placental-like (ALP-1 or GCA P) and tissue non-specific (TNAP). The first three are located together on chromosome 2 while the tissue non-specific form is located on chromosome 1. TNAP is widely expressed in liver, kidney, bone, stomach and colon, and is therefore referred to as the tissue non-specific form of AP. TNAP, in conjunction with plasma cell membrane glycoprotein-1, functions in bone mineralization; however, mice that lack a functional form of TNAP show normal skeletal development. This enzyme has been linked directly to a disorder known as hypophosphatasia, a rare inborn disorder that is characterized by defective bone mineralization and includes skeletal defects. The gene encoding human TNAP maps to chromosome 1p36.12.

**CHROMOSOMAL LOCATION**

Genetic locus: ALPL (human) mapping to 1p36.12.

**SOURCE**

TNAP (B4-78) is a mouse monoclonal antibody raised against purified Alkaline Phosphatase from bone of human origin.

**PRODUCT**

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TNAP (B4-78) is available conjugated to either phycoerythrin (sc-81754 PE) or fluorescein (sc-81754 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

**STORAGE**

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

**APPLICATIONS**

TNAP (B4-78) is recommended for detection of TNAP 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for TNAP shRNA (h): sc-38921, TNAP shRNA Plasmid (h): sc-38921-SH and TNAP shRNA (h) Lentiviral Particles: sc-38921-V.

Molecular Weight of TNAP: 80 kDa.

Positive Controls: TNAP (h3): 293T Lysate: sc-112494 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

**RECOMMENDED SUPPORT REAGENTS**

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


**DATA**

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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