

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Alkaline Phosphatase/ALPL in direct ELISAs. In direct ELISAs, 80-100% cross-reactivity with recombinant mouse Alkaline Phosphatase/ALPL is observed and no cross-reactivity with recombinant human (rh) Alkaline Phosphatase/ALPP or rhAlkaline Phosphatase/ALPI is observed.
Source	Monoclonal Rat IgG _{2A} Clone # 388828
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Alkaline Phosphatase/ALPL Leu18-Ser502 Accession # P05186
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

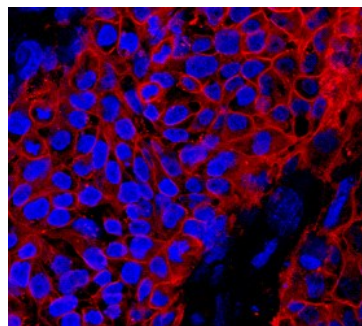
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Immunocytochemistry	8-25 µg/mL	See Below

DATA

Immunocytochemistry



Alkaline Phosphatase/ALPL in BG01V Human Embryonic Stem Cells. Alkaline Phosphatase/ALPL was detected in immersion fixed BG01V human embryonic stem cells using Rat Anti-Human Alkaline Phosphatase/ALPL Monoclonal Antibody (Catalog # MAB29091) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody (red; Catalog # NL013) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Four distinct genes encode alkaline phosphatases (APs) in humans (1). The ALPL gene encodes the liver/bone/kidney isozyme, also known as the tissue-nonspecific AP (TNAP). In comparison, ALPI, ALPP and ALPPL2 encode intestinal, placental and placental-like or germ cell APs, respectively. The serum levels of human APs are useful tumor markers (2). There are many mutations in the ALPL gene, leading to different forms of hypophosphatasia, characterized by poorly mineralized cartilage and bones (3). The native ALPL is a glycosylated homodimer attached to the membrane through a GPI-anchor. The C-terminal pro peptide (residues 503-524) is not present in the mature form.

References:

1. Le Du, M-H. and J.L. Millan (2002) *J. Biol. Chem.* **277**:49808.
2. Millan, J.L. and W.H. Fishman (1995) *Crit. Rev. Clin. Lab. Sci.* **32**:1.
3. Di Mauro, S. *et al.* (2002) *J. Bone Miner. Res.* **17**:1383.