PE Mouse anti-Human Alkaline Phosphatase

**Product Information**

- **Material Number:** 561433
- **Alternate Name:** Bone/Kidney/Liver Alkaline Phosphatase, TNAP, TNSALP, AP-TNAP, ALPL
- **Entrez Gene ID:** 249
- **Size:** 100 tests
- **Vol. per Test:** 5 µl
- **Clone:** B4-78
- **Immunogen:** Human Bone Alkaline Phosphatase
- **Isotype:** Mouse (BALB/c) IgG1, κ
- **Reactivity:** QC Tested: Human
  - Lack of Reactivity Confirmed in Development: Mouse
  - Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The B4-78 monoclonal antibody reacts with the tissue-nonspecific isozyme of alkaline phosphatase. Alkaline phosphatases are membrane-bound glycoproteins. Four isozymes of alkaline phosphatase exist in humans: placental, placental-like, intestinal, and liver/bone/kidney. Liver/bone/kidney alkaline phosphatase is also known as tissue-nonspecific alkaline phosphatase (TNAP). Human embryonic stem cells and embryonic carcinoma cells express high levels of tissue-nonspecific alkaline phosphatase that decrease upon differentiation. Genetic and biochemical studies suggest that TNAP plays a role in skeletal mineralization.

**Flow cytometric analysis of Alkaline Phosphatase expression on human embryonic stem (ES) cells.** H9 human ES cells (WiCell, Madison, WI) grown in mTeSR™1 medium (StemCell Technologies) on BD Matrigel™ hESC-qualified Matrix were harvested and stained with PE Mouse anti-Human Alkaline Phosphatase antibody (solid line) or a PE mouse IgG1, κ isotype control (Clone MOPC-21, dashed line). Flow cytometry was performed on a BD LSR™ II flow cytometry system.

**Preparation and Storage**

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed. Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

**Application Notes**

**Application**

- Flow cytometry

**Suggested Companion Products**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>354277</td>
<td>BD Matrigel™ hESC-qualified Matrix, 5 ml vial</td>
<td>NA</td>
<td>(none)</td>
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<tr>
<td>554680</td>
<td>PE Mouse IgG1, κ Isotype Control</td>
<td>0.1 mg</td>
<td>MOPC-21</td>
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<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
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**Product Notices**

2. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. mTeSR™1 is a trademark of StemCell Technologies.
5. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References
Addison WN, Sorensen ES, Kaartinen MT, McKee MD. Pyrophosphate inhibits mineralization of osteoblast cultures by binding to mineral, up-regulating osteopontin, and inhibiting alkaline phosphatase activity. J Biol Chem. 2007; 282(21):15872-15883. (Biology)


Karp JM, Ferreira LS, Khademhosseini A, Kwon AH, Yeh J, Langer RS. Cultivation of human embryonic stem cells without the embryoid body step enhances osteogenesis in vitro. Stem Cells. 2006; 24:835-843. (Biology)
