Technical Data Sheet

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, ĸ		
Reactivity:	QC Tested: Human		
•	Lack of Reactivity Confirmed in Development: Mouse		
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.		

Storage Buffer:

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 (Cat. No. 354277) 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, Cat. No. 554680, 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	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone	
354277	BD Matrigel [™] hESC-qualified Matrix, 5 ml vial	NA	(none)	
554680	PE Mouse IgG1, κ Isotype Control	0.1 mg	MOPC-21	
554656	Stain Buffer (FBS)	500 ml	(none)	

Product Notices

- Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols. 1.
- For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors. 2.
- 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.

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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)

Dorheim MA, Sullivan M, Dandapani V, et al. Osteoblastic gene expression during adipogenesis in hematopoietic supporting murine bone marrow stromal cells. J Cell Physiol. 1993; 154(2):317-328. (Clone-specific)

Eghbali-Fatourechi GZ, Lamsam J, Fraser D, Nagel D, Riggs BL, Khosla S. Circulating osteoblast-lineage cells in humans. N Engl J Med. 2005; 352(19):1959-1966. (Clone-specific: Flow cytometry)

International Stem Cell Initiative. Characterization of human embryonic stem cell lines by the International Stem Cell Initiative. Nat Biotechnol. 2007; 25(7):803-816. (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 costeogenesis in vitro. Stem Cells. 2006; 24:835-843. (Biology) Lawson GM, Katzmann JA, Kimlinger TK, O'Brien JF. Isolation and preliminary characterization of a monoclonal antibody that interacts preferentially with the liver

isoenzyme of human alkaline phosphatase. Clin Chem. 1985; 31(3):381-385. (Immunogen)

O'Connor MD, Kardel MD, Iosfina I, Youssef D, Lu M, Li MM, Vercauteren S, Nagy A, Eaves CJ. Alkaline phosphatase-positive colony formation is a sensitive, specific, and quantitative indicator of undifferentiated human embryonic stem cells. Stem Cells. 2008; 26(5):1109-1116. (Biology)