

DESCRIPTION

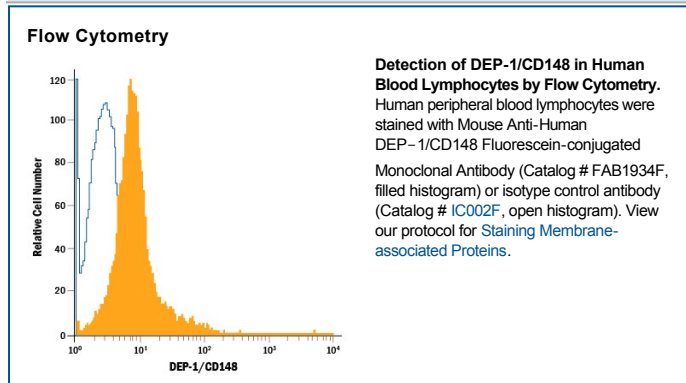
Species Reactivity	Human
Specificity	Detects human DEP-1/CD148 in Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 143-41
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Phytohemagglutinin-stimulated human peripheral blood mononuclear cells
Conjugate	Fluorescein Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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
Flow Cytometry	10 µL/10 ⁶ cells	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Density Enhanced Protein Tyrosine Phosphatase (DEP-1), also known as CD148, HPTP-eta, and PTP Receptor Type J (PTPRJ), is an enzyme that removes phosphate groups covalently attached to tyrosine residues in proteins. A large (220 kDa) glycoprotein found at the cell surface, DEP-1 levels are increased with high cell density (1). DEP-1 phosphatase activity is enhanced by basement membrane proteins (2), suggesting it is involved in regulating cell adhesion and contact interactions. High levels of expression dampen PDGF (3), VEGF (4), and T-cell receptor (5) responses. DEP-1 is widely expressed in tissues, particularly ones forming epithelioid monolayers (6). In the immune system, DEP-1 is found on all cell lineages and is highest on granulocytes (7). *Dep-1* is the mutated gene in the Susceptibility to Colon Cancer locus *Sccl1*, which is altered in many human colorectal adenomas (8). Gene knockout mice lacking DEP-1 die at midgestation due to failures in cardiovascular development (9). DEP-1 dephosphorylates a variety of proteins, including the HGF (10), PDGF (11), and VEGF (4) receptors, and beta-Catenin (12). The recombinant protein is the intracellular region of DEP-1 containing the catalytic domain.

References:

1. Ostman, A. *et al.* (1994) *Proc. Natl. Acad. Sci. USA* **91**:9680.
2. Sorby, M. *et al.* (2001) *Oncogene* **20**:5219.
3. Jandt, E. *et al.* (2003) *Oncogene* **22**:4175.
4. Lampugnani, M.G. *et al.* (2003) *J. Cell Biol.* **161**:793.
5. Baker, J.E. *et al.* (2001) *Mol. Cell. Biol.* **21**:2393.
6. Borges, L.G. *et al.* (1996) *Circ. Res.* **79**:570.
7. de la Fuente-Garcia, M.A. *et al.* (1998) *Blood* **91**:2800.
8. Ruivenkamp, C.A. *et al.* (2002) *Nat. Genet.* **31**:295.
9. Takahashi, T. *et al.* (2003) *Mol. Cell. Biol.* **23**:1817.
10. Palka, H.L. *et al.* (2003) *J. Biol. Chem.* **278**:5728.
11. Kovalenko, M. *et al.* (2000) *J. Biol. Chem.* **275**:16219.
12. Holsinger, L.J. *et al.* (2002) *Oncogene* **21**:7067.