

## DEP-1 (G-15): sc-23275

### BACKGROUND

Density-enhanced phosphatase-1 (DEP-1), a receptor-like protein tyrosine phosphatase, also known as HPTP-eta/CD148, is involved in signal transduction in leukocytes and in the mechanisms of cellular differentiation. DEP-1 consists of an extracellular segment containing eight fibronectin type III repeats, a single transmembrane segment and a single intracellular PTP domain. In lymphoid organs, DEP-1 is widely expressed on B and T cells, granulocytes, macrophages, certain dendritic cells, mature thymocytes and neutrophils. In non-lymphoid tissues, it is expressed on fibrocytes, melanocytes and Schwann cells, and many epithelial cell types with glandular and/or endocrine differentiation. In Jurkat T cells, DEP-1 inhibits TCR-mediated activation, which results in reduced expression of the early activation of Ag CD69, inhibition of tyrosine phosphorylation of many intracellular proteins, including tyrosine kinase ZAP-70 and impairment of mitogen-activated protein kinase activation. In spite of its intrinsic enzymatic activity, DEP-1 can induce protein tyrosine phosphorylation in human lymphocytes, and serine/ threonine and/or tyrosine phosphorylation in tumor cell lines.

### REFERENCES

- Ostman, A., et al. 1994. Expression of DEP-1, a receptor-like protein tyrosine phosphatase, is enhanced with increasing cell density. *Proc. Natl. Acad. Sci. USA* 91: 9680-9684.
- Honda, H., et al. 1994. Molecular cloning, characterization, and chromosomal localization of a novel protein tyrosine phosphatase, HPTA-eta. *Blood* 84: 4186-4194.
- Borges, L.G., et al. 1996. Cloning and characterization of rat density-enhanced phosphatase-1, a protein tyrosine phosphatase expressed by vascular cells. *Circ. Res.* 79: 570-580.
- Palou, E., et al. 1997. CD148, a membrane protein tyrosine phosphatase, is able to induce tyrosine phosphorylation on human lymphocytes. *Immunol. Lett.* 57: 101-103.
- Jallal, B., et al. 1997. The receptor-like protein tyrosine phosphatase DEP-1 is constitutively associated with a 64 kDa protein serine/threonine kinase. *J. Biol. Chem.* 272: 12158-12163.
- Hundt, M., et al. 1997. Functional characterization of receptor-type protein tyrosine phosphatase CD148 (HPTP-eta/DEP-1) in Fc  $\gamma$  receptor IIa signal transduction of human neutrophils. *Eur. J. Immunol.* 27: 3532-3535.
- Tangye, S.G., et al. 1998. CD148: a receptor-type protein tyrosine phosphatase involved in the regulation of human T cell activation. *J. Immunol.* 161: 3249-3255.
- Tangye, S.G., et al. 1998. Negative regulation of human T cell activation by the receptor-type protein tyrosine phosphatase CD148. *J. Immunol.* 161: 3803-3807.

### CHROMOSOMAL LOCATION

Genetic locus: PTPRJ (human) mapping to 11p11.2.

### RESEARCH USE

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

### SOURCE

DEP-1 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DEP-1 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23275 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

DEP-1 (G-15) is recommended for detection of DEP-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DEP-1 siRNA (h): sc-35189, DEP-1 shRNA Plasmid (h): sc-35189-SH and DEP-1 shRNA (h) Lentiviral Particles: sc-35189-V.

Molecular Weight of DEP-1: 220-250 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or THP-1 cell lysate: sc-2238.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### STORAGE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **DEP-1 (F-12): sc-376794** or **DEP-1 (D-4): sc-376792**, our highly recommended monoclonal alternatives to DEP-1 (G-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **DEP-1 (F-12): sc-376794**.