SANTA CRUZ BIOTECHNOLOGY, INC.

# DEP-1 (C-17): sc-13798

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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


1. Ostman, A., et al. 1994. Expression of DEP-1, a receptor-llike protein-tyrosine-phosphatase, is enhanced with increasing cell density. Proc. Natl. Acad. Sci. 91: 9680-9684.
2. Honda, H., et al. 1994. Molecular cloning, characterization, and chromosomal localization of a novel protein-tyrosine phosphatase, HPTA eta. Blood 84: 4186-4194.
3. Borges, L.G., et al. 1996. Cloning and characterzation of rat density-enhanced phosphatase-1, a protein tyrosine phosphatase expressed by vascular cells. Circ. Res. 79: 570-580.
4. Hundt, M., et al. 1997. Functional characterization of receptor-type protein tyrosine phosphatase CD148 (HPTP eta/DEP-1) in Fc γ receptor IIa signal transduction of human neutrophils. Eur. J. Immunol. 27: 3532-3535.
5. 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.
6. Jallal, B., et al. 1997. The receptor-like protein-tyrosine phosphatase DEP-1 is constitutively associated with a 64 kDa protein serine/thrreonine kinase. J. Biol. Chem. 272: 12158-12163.
7. 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.
8. 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.
9. Autschbach, F., et al. 1999. Expression of the membrane protein tyrosine phosphatase CD148 in human tissues. Tissue Antigens. 54: 485-498.


## STORAGE

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

## CHROMOSOMAL LOCATION

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

## SOURCE

DEP-1 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of DEP-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13798 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

DEP-1 (C-17) 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).

DEP-1 (C-17) is also recommended for detection of DEP-1 in additional species, including equine, canine, bovine and porcine.

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.

## SELECT PRODUCT CITATIONS


1. Petermann, A., et al. 2010. Loss of the protein-tyrosine phosphatase DEP-1/PTPRJ drives meningioma cell motility. Brain Pathol. 21: 405-418.


## RESEARCH USE

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

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.