



DEP-1 (M-15): sc-13800

BACKGROUND

Density-enhanced phosphatase-1 (DEP-1), a receptor-like protein tyrosine phosphatase, also known as HPTP- η /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

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- Honda, H., et al. 1994. Molecular cloning, characterization, and chromosomal localization of a novel protein tyrosine phosphatase, HPTP- η . *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- η /DEP-1) in Fc γ 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.
- Autschbach, F., et al. 1999. Expression of the membrane protein tyrosine phosphatase CD148 in human tissues. *Tissue Antigens* 54: 485-498.

CHROMOSOMAL LOCATION

Genetic locus: Ptp η (mouse) mapping to 2 E1.

STORAGE

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

SOURCE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-13800 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DEP-1 (M-15) is recommended for detection of DEP-1 of mouse 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 (m): sc-38985, DEP-1 shRNA Plasmid (m): sc-38985-SH and DEP-1 shRNA (m) Lentiviral Particles: sc-38985-V.

Molecular Weight of DEP-1: 180-220 kDa.

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

- González-Fernández, L., et al. 2009. Identification of protein tyrosine phosphatases and dual-specificity phosphatases in mammalian spermatozoa and their role in sperm motility and protein tyrosine phosphorylation. *Biol. Reprod.* 80: 1239-1252.

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.