SANTA CRUZ BIOTECHNOLOGY, INC.

DEP-1 (B-2): sc-390404

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

1. 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. 91: 9680-9684.
2. Honda, H., et al. 1994. Molecular cloning, characterization, and chromosomal localization of a novel protein-tyrosine phosphatase, HPTA η. 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. and Schmidt, R.E. 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.
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.

CHROMOSOMAL LOCATION

Genetic locus: PTPRJ (human) mapping to 11p11.2; Ptprj (mouse) mapping to 2 E1.

SOURCE

DEP-1 (B-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 31-65 near the N-terminus of DEP-1 of rat origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390404 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

DEP-1 (B-2) is recommended for detection of DEP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 siRNA (m): sc-38985, DEP-1 shRNA Plasmid (h): sc-35189-SH, DEP-1 shRNA Plasmid (m): sc-38985-SH, DEP-1 shRNA (h) Lentiviral Particles: sc-35189-V and DEP-1 shRNA (m) Lentiviral Particles: sc-38985-V.

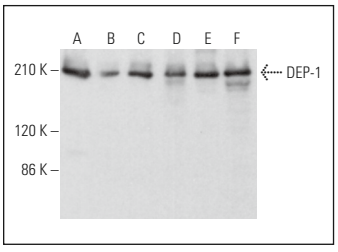
Molecular Weight of DEP-1: 180-220 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, HL-60 whole cell lysate: sc-2209 or CCRF-CEM cell lysate: sc-2225.

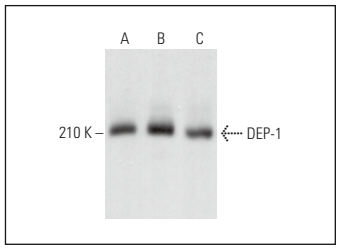
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DEP-1 (B-2): sc-390404. Western blot analysis of DEP-1 expression in Daudi (**A**), THP-1 (**B**), WEHI-231 (**C**), BYDP (**D**) and RAW 264.7 (**E**) whole cell lysates and rat thymus tissue extract (**F**).



DEP-1 (B-2): sc-390404. Western blot analysis of DEP-1 expression in HL-60 (**A**), CCRF-CEM (**B**) and RAW 264.7 (**C**) whole cell lysates.

RESEARCH USE

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