

BDP1 (A-3): sc-166745

BACKGROUND

Protein tyrosine phosphorylation plays a key role in the regulation of several fundamental cellular processes, including cell growth, migration and differentiation. The regulation of phosphorylation is controlled by the opposing actions of protein tyrosine kinases and protein tyrosine phosphatase. BDP1 (brain derived phosphatase 1) is a member of the PEST protein tyrosine phosphatase family. The expression of BDP1 is not limited to the brain, but is also detectable in colon and several tumor-derived cell lines. BDP1 has been shown to differentially dephosphorylate autophosphorylated tyrosine kinases, such as SRC and EGFR, that are overexpressed in tumor tissues.

REFERENCES

1. Lowenstein, E.J., et al. 1992. The SH2 and SH3 domain-containing protein GRB2 links receptor tyrosine kinases to Ras signaling. *Cell* 70: 431-442.
2. Walton, K.M. and Dixon, J.E. 1993. Protein tyrosine phosphatases. *Annu. Rev. Biochem.* 62: 101-120.
3. Kim, Y.W., et al. 1996. Characterization of the PEST family protein tyrosine phosphatase BDP1. *Oncogene* 13: 2275-2279.
4. Tamir, I. and Cambier, J.C. 1998. Antigen receptor signaling: integration of protein tyrosine kinase functions. *Oncogene* 17: 1353-1364.
5. Van Vactor, D., et al. 1998. Genetic analysis of protein tyrosine phosphatases. *Curr. Opin. Genet. Dev.* 8: 112-126.
6. Gensler, M., et al. 2004. Negative regulation of HER2 signaling by the PEST-type protein-tyrosine phosphatase BDP1. *J. Biol. Chem.* 279: 12110-12116.
7. Gandhi, T.K., et al. 2005. A bioinformatics analysis of protein tyrosine phosphatases in humans. *DNA Res.* 12: 79-89.

CHROMOSOMAL LOCATION

Genetic locus: PTPN18 (human) mapping to 2q21.1; Ptpn18 (mouse) mapping to 1 B.

SOURCE

BDP1 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 425-455 near the C-terminus of BDP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-166745 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

BDP1 (A-3) is recommended for detection of BDP1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with PTP-PEST.

BDP1 (A-3) is also recommended for detection of BDP1 in additional species, including porcine.

Suitable for use as control antibody for BDP1 siRNA (h): sc-106797, BDP1 siRNA (m): sc-155870, BDP1 shRNA Plasmid (h): sc-106797-SH, BDP1 shRNA Plasmid (m): sc-155870-SH, BDP1 shRNA (h) Lentiviral Particles: sc-106797-V and BDP1 shRNA (m) Lentiviral Particles: sc-155870-V.

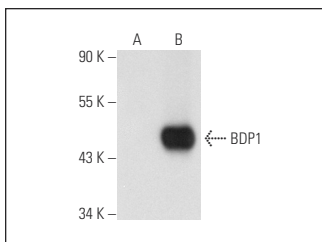
Molecular Weight of BDP1: 50 kDa.

Positive Controls: BDP1 (m): 293T Lysate: sc-118795.

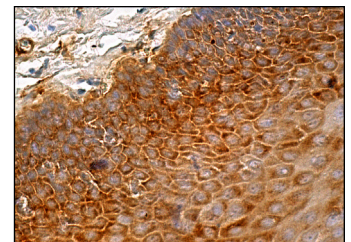
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



BDP1 (A-3): sc-166745. Western blot analysis of BDP1 expression in non-transfected: sc-117752 (A) and mouse BDP1 transfected: sc-118795 (B) 293T whole cell lysates.



BDP1 (A-3): sc-166745. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

PROTOCOLS

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