SANTA CRUZ BIOTECHNOLOGY, INC.

BDP1 (B-6): sc-515058

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (B-6) is a mouse monoclonal antibody raised against amino acids 241-453 mapping at the C-terminus of BDP1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BDP1 (B-6) is available conjugated to agarose (sc-515058 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515058 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515058 PE), fluorescein (sc-515058 FITC), Alexa Fluor® 488 (sc-515058 AF488), Alexa Fluor® 546 (sc-515058 AF546), Alexa Fluor® 594 (sc-515058 AF594) or Alexa Fluor® 647 (sc-515058 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515058 AF680) or Alexa Fluor® 790 (sc-515058 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

BDP1 (B-6) is recommended for detection of BDP1 of mouse, rat and human 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 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.

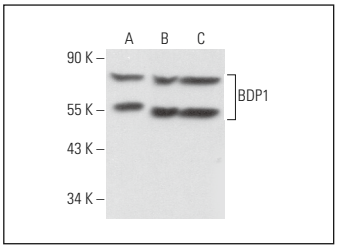
Molecular Weight of BDP1: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, RAW 264.7 whole cell lysate: sc-2211 or LADMAC whole cell lysate: sc-364189.

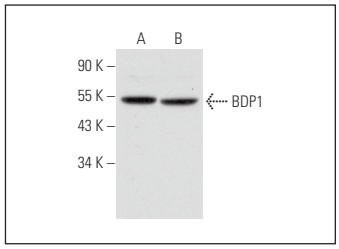
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



BDP1 (B-6): sc-515058. Western blot analysis of BDP1 expression in HeLa (**A**), RAW 264.7 (**B**) and SP2/0 (**C**) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



BDP1 (B-6): sc-515058. Western blot analysis of BDP1 expression in HeLa (**A**) and LADMAC (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Thaler, S., et al. 2017. Proteasome inhibitors prevent bi-directional HER2/estrogen-receptor cross-talk leading to cell death in endocrine and lapatinib-resistant $HER2^+/ER^+$ breast cancer cells. Oncotarget 8: 72281-72301.

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.