SANTA CRUZ BIOTECHNOLOGY, INC.

p-Bad (Ser 136): sc-12969

BACKGROUND

Phosphorylation of Bad, a pro-apoptotic member of the Bcl-2 protein family, on either Serine 112 or Serine 136 is thought to be necessary and sufficient for growth factors to promote cell survival. Serine 155 is a major site of phosphorylation by protein kinase A (PKA) and serum-induced kinases. Serine 155 phosphorylation requires the prior phosphorylation of Serine 136, which recruits 14-3-3 proteins that then function to increase the accessibility of Serine 155 to survival-promoting kinases. Like Serine 112 and Serine 136, phosphorylation of Serine 155 inhibits the pro-apoptotic function of Bad. Serine 155 phosphorylation disrupts the binding of Bad to pro-survival Bcl-2 proteins and thereby promotes cell survival.

REFERENCES

1. Virdee, K., et al. 2000. Phosphorylation of the pro-apoptotic protein Bad on Serine 155, a novel site, contributes to cell survival. Curr. Biol. 10: 1151-1154.
2. Salomoni, P., et al. 2000. Versa-tility of Bcr/Abl-expressing leukemic cells in circumventing proapoptotic Bad effects. Blood 96: 676-684.
3. Lawson, A.E., et al. 2000. Phosphatase inhibition promotes antiapoptotic but not proliferative signaling pathways in erythropoietin-dependent HCD57 cells. Blood 96: 2084-2092.
4. Bertolotto, C., et al. 2000. Protein kinase C θ and ε promote T-cell survival by a Rsk-dependent phosphorylation and inactivation of BAD. J. Biol. Chem. 275: 37246-37250.
5. Datta, S.R., et al. 2000. 14-3-3 proteins and survival kinases cooperate to inactivate Bad by BH3 domain phosphorylation. Mol. Cel. 6: 41-51.
6. Kim, H., et al. 2006. Hierarchical regulation of mitochondrion-dependent apoptosis by Bcl-2 subfamilies. Nat. Cell. Biol. 8:1348-58.
7. Kimura, S., et al. 2006. Bim and Bad mediate imatinib-induced killing of Bcr/Abl^{+} leukemic cells, and resistance due to their loss is overcome by a BH3 mimetic. Proc. Natl. Acad. Sci. USA 103: 14907-14912.
8. Malissein, E., et al. 2006. Activation of Bad trafficking is involved in the Bcr-mediated apoptosis of immature B cells. Apoptosis 11:1003-1012.

CHROMOSOMAL LOCATION

Genetic locus: BAD (human) mapping to 11q13.1; Bad (mouse) mapping to 19 A.

SOURCE

p-Bad (Ser 136) is available as either goat (sc-12969) or rabbit (sc-12969-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Ser 136 of Bad of mouse 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-12969 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

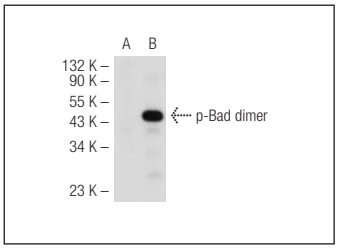
p-Bad (Ser 136)-R is recommended for detection of Ser 136 phosphorylated Bad of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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 Bad siRNA (h): sc-29778, Bad siRNA (m): sc-29779, Bad shRNA Plasmid (h): sc-29778-SH, Bad shRNA Plasmid (m): sc-29779-SH, Bad shRNA (h) Lentiviral Particles: sc-29778-V and Bad shRNA (m) Lentiviral Particles: sc-29779-V.

Molecular Weight of p-Bad (Ser 136): 25 kDa.

Positive Controls: Bad (h3): 293T Lysate: sc-170552 or calyculin-treated HeLa whole cell lysate.

DATA



p-Bad (Ser 136)-R: sc-12969-R. Western blot analysis of Bad phosphorylation in non-transfected: sc-117752 (**A**) and human Bad transfected: sc-170552 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Petrangolini, G., Cuccuru, G., Lanzi, C., Tortoreto, M., Belluco, S., Pratesi, G., Cassinelli, G. and Zunino, F. 2006. Apoptotic cell death induction and angiogenesis inhibition in large established medullary thyroid carcinoma xenografts by Ret inhibitor RPI-1. Biochem. Pharmacol. 72: 405-414.
2. George, R.J., Sturmoski, M.A., Anant, S. and Houchen, C.W. 2007. EP4 mediates PGE2 dependent cell survival through the PI 3-kinase/Akt pathway. Prostaglandins Other Lipid Mediat. 83: 112-120.

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.

PROTOCOLS

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