# 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

- Salomoni, P., et al. 2000. Versatility of Bcr/Abl-expressing leukemic cells in circumventing proapoptotic BAD effects. Blood 96: 676-684.
- Lawson, A.E., et al. 2000. Phosphatase inhibition promotes antiapoptotic but not proliferative signaling pathways in erythropoietin-dependent HCD57 cells. Blood 96: 2084-2092.

#### 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) affinity purified polyclonal antibody raised against a short amino acid sequence containing Ser 136 phosphorylated Bad of mouse origin.

#### PRODUCT

Each vial contains 200  $\mu g$  lgG 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  $\mu$ g 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 (predicted) of p-Bad: 22 kDa.

Molecular Weight (observed) of p-Bad: 23/28 kDa.

Positive Controls: HeLa + Calyculin A cell lysate: sc-2271.

#### **SELECT PRODUCT CITATIONS**

- Chong, Z.Z., et al. 2003. Erythropoietin fosters both intrinsic and extrinsic neuronal protection through modulation of microglia, Akt1, Bad, and caspase-mediated pathways. Br. J. Pharmacol. 138: 1107-1118.
- Rodrigues, C.M., et al. 2003. Tauroursodeoxycholic acid reduces apoptosis and protects against neurological injury after acute hemorrhagic stroke in rats. Proc. Natl. Acad. Sci. USA 100: 6087-6092.
- Solá, S., et al. 2003. Tauroursodeoxycholic acid prevents amyloid-β peptideinduced neuronal death via a phosphatidylinositol 3-kinase-dependent signaling pathway. Mol. Med. 9: 226-234.
- 4. Kakazu, A., et al. 2004. HGF protects corneal epithelial cells from apoptosis by the PI-3K/Akt-1/Bad- but not the ERK1/2-mediated signaling pathway. Invest. Ophthalmol. Vis. Sci. 45: 3485-3492.
- Chong, Z.Z., et al. 2005. The sirtuin inhibitor nicotinamide enhances neuronal cell survival during acute anoxic injury through AKT, BAD, PARP, and mitochondrial associated "anti-apoptotic" pathways. Curr. Neurovasc. Res. 2: 271-285.
- Petrangolini, G., et al. 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.
- Xiao, D., et al. 2006. Diallyl trisulfide, a constituent of processed garlic, inactivates Akt to trigger mitochondrial translocation of BAD and caspasemediated apoptosis in human prostate cancer cells. Carcinogenesis 27: 533-540.
- George, R.J., et al. 2007. EP4 mediates PGE2 dependent cell survival through the PI 3-kinase/Akt pathway. Prostaglandins Other Lipid Mediat. 83: 112-120.
- Zhang, Y.W., et al. 2010. Eriocalyxin B induces apoptosis in lymphoma cells through multiple cellular signaling pathways. Exp. Hematol. 38: 191-201.
- Greene, J.M., et al. 2013. L-arginine enhances cell proliferation and reduces apoptosis in human endometrial RL95-2 cells. Reprod. Biol. Endocrinol. 11: 15.

#### **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.

MONOS Tr Satisfation m Guaranteed

Try **p-Bad (F-6): sc-271963**, our highly recommended monoclonal aternative to p-Bad (Ser 136).