SANTA CRUZ BIOTECHNOLOGY, INC.

p-survivin (Thr 34): sc-16320

BACKGROUND

Two mammalian homologs of baculovirus p35, referred to as inhibitor of apoptosis protein (IAP) 1 and 2, share an amino-terminal baculovirus IAP repeat (BIR) motif and a carboxy-terminal RING finger. Although the c-IAPs do not directly associate with the TNF receptor (TNF-R), they efficiently block TNF-mediated apoptosis through their interaction with the downstream TNF-R effectors, TRAF1 and TRAF2. Additional IAP family members include, ILP (for IAP-like protein) and survivin. ILP inhibits activated caspase-3, leading to the resistance of FAS-mediated apoptosis. Whereas an increase in caspase-3 activity occurs when the survivin-microtubule interaction is disrupted, survivin (also designated TIAP) is expressed during the G_2/M phase of the cell cycle and associates with microtubules of the mitotic spindle. Cyclin-dependent kinase p34Cdc2 associates with survivin and phosphorylates survivin at Thr 34 *in vivo*. Loss of phosphorylation at Thr 34 leads to dissociation of the survivin-caspase-9-complex on the mitotic apparatus.

REFERENCES

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2. Uren, A.G., Pakusch, M., Hawkins, C.J., Puls, K.L. and Vaux, D.L. 1996. Cloning and expression of apoptosis inhibitory protein homologs that function to inhibit apoptosis and/or bind tumor necrosis factor receptor-associated factors. Proc. Natl. Acad. Sci. USA 93: 4974-4978.
3. Suzuki, A., Tsutomi, Y., Akahane, K., Araki, T. and Miura, M. 1998. Resistance to FAS-mediated apoptosis: activation of caspase 3 is regulated by cell cycle regulator p21WAF1 and IAP gene family ILP. Oncogene 17: 931-939.
4. Li, F., Ambrosini, G., Chu, E.Y., Plescia, J., Tognin, S., Marchisio, P.C. and Altieri, D.C. 1998. Control of apoptosis and mitotic spindle checkpoint by survivin. Nature 396: 580-584.

CHROMOSOMAL LOCATION

Genetic locus: BIRC5 (human) mapping to 17q25; Birc5 (mouse) mapping to 11 E2.

SOURCE

p-survivin (Thr 34) is available as either goat (sc-16320) or rabbit (sc-16320-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Thr 34 of survivin of human 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-16320 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

p-survivin (Thr 34)-R is recommended for detection of Thr 34 phosphorylated survivin 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).

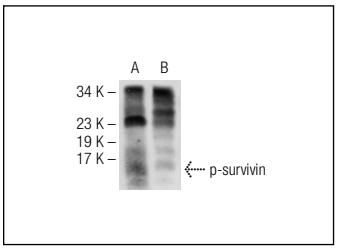
p-survivin (Thr 34) is also recommended for detection of correspondingly phosphorylated Thr on survivin in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for survivin siRNA (h): sc-29499, survivin siRNA (m): sc-29500, survivin shRNA Plasmid (h): sc-29499-SH, survivin shRNA Plasmid (m): sc-29500-SH, survivin shRNA (h) Lentiviral Particles: sc-29499-V and survivin shRNA (m) Lentiviral Particles: sc-29500-V.

Molecular Weight of p-survivin: 16.5 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209.

DATA



p-survivin (Thr 34)-R: sc-16320-R. Western blot analysis of survivin phosphorylation in untreated (**A**) and lambda protein phosphatase (sc-200312A) treated (**B**) HL-60 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Belyanskaya, L.L., et al. 2005. Cisplatin activates Akt in small cell lung cancer cells and attenuates apoptosis by survivin upregulation. Int. J. Cancer 117: 755-763.
2. Zhang, Y., et al. 2007. Hypoxic preconditioning protects human brain endothelium from ischemic apoptosis by Akt-dependent survivin activation. Am. J. Physiol. Heart Circ. Physiol. 292: H2573-H2581.
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4. Wesierska-Gadek, J., et al. 2011. Reconstitution of human MCF-7 breast cancer cells with caspase-3 does not sensitize them to action of CDK inhibitors. J. Cell. Biochem. 112: 273-288.

RESEARCH USE

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