

# survivin (3F342): sc-73082

## BACKGROUND

The baculovirus protein p35 inhibits virally-induced apoptosis of invertebrate and mammalian cells and may function to impair the clearing of virally infected cells by the immune system of the host. This is accomplished at least in part by the ability of p35 to block both TNF- and FAS-mediated apoptosis through the inhibition of the ICE family of serine proteases. 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. Survivin (also designated TIAP) is expressed during the G<sub>2</sub>/M phase of the cell cycle and associates with microtubules of the mitotic spindle. Increased caspase-3 activity is detected when a disruption of survivin-microtubule interactions occurs.

## REFERENCES

- Hay, B.A., et al. 1994. Expression of baculovirus p35 prevents cell death in *Drosophila*. *Development* 120: 2121-2129.
- Beidler, D.R., et al. 1995. The baculovirus p35 protein inhibits FAS- and tumor necrosis factor-induced apoptosis. *J. Biol. Chem.* 270: 16526-16528.
- Bump, N.J., et al. 1995. Inhibition of ICE family proteases by baculovirus antiapoptotic protein p35. *Science* 269: 1885-1888.
- Rothe, M., et al. 1995. The TNFR2-TRAF signaling complex contains two novel proteins related to baculoviral inhibitor of apoptosis proteins. *Cell* 83: 1243-1252.
- Uren, A.G., et al. 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.
- Suzuki, A., et al. 1998. Resistance to FAS-mediated apoptosis: activation of caspase-3 is regulated by cell cycle regulator p21<sup>WAF1</sup> and IAP gene family ILP. *Oncogene* 17: 931-939.
- Li, F., et al. 1998. Control of apoptosis and mitotic spindle checkpoint by survivin. *Nature* 396: 580-584.

## CHROMOSOMAL LOCATION

Genetic locus: BIRC5 (human) mapping to 17q25.3; Birc5 (mouse) mapping to 11 E2.

## SOURCE

survivin (3F342) is a mouse monoclonal antibody raised against full length human survivin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

survivin (3F342) is recommended for detection of 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), 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).

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, survivin shRNA (m) Lentiviral Particles: sc-29500-V.

Molecular Weight of survivin: 17 kDa.

## 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.

## SELECT PRODUCT CITATIONS

- He, F., et al. 2013. Apoptotic signaling pathways in uteri of rats with endometrial hyperplasia induced by ovariectomy combined with estrogen. *Gynecol. Obstet. Invest.* 76: 51-56.
- Guo, X., et al. 2018. Induced pluripotent stem cell-derived conditional medium promotes Leydig cell anti-apoptosis and proliferation via autophagy and Wnt/β-catenin pathway. *J. Cell. Mol. Med.* 22: 3614-3626.
- Li, H., et al. 2019. Knockdown of diacylglycerol kinase ζ (DGKZ) induces apoptosis and G<sub>2</sub>/M phase arrest in human acute myeloid leukemia HL-60 cells through MAPK/survivin/caspase pathway. *Pharmazie* 74: 418-422.

## 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.



See **survivin (D-8): sc-17779** for survivin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.