SANTA CRUZ BIOTECHNOLOGY, INC.

survivin (1-142): sc-4411 WB

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 host's immune system. This is accomplished at least in part by its ability 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 (also designated TIAP). ILP inhibits activated caspase-3, leading to the resistance of FAS-mediated apoptosis. Survivin is expressed during the G_2/M phase of the cell cycle and associates with microtublules of the mitotic spindle. Increased caspase-3 activity is detected when a disruption of survivin-microtubule interactions occurs.

REFERENCES

1. Hay, B.A., Wolff, T., and Rubin, G.M. 1994. Expression of baculovirus p35 prevents cell death in *Drosophila*. Develop. 120: 2121-2129.
2. Beidler, D.R., Tewari, M., Friesen, P.D., Poirier, G., and Dixit, V.M. 1995. The baculovirus p35 protein inhibits FAS- and tumor necrosis factor-induced apoptosis. J. Biol. Chem. 270: 16526-16528.
3. Bump, N.J., Hackett, M., Hugunin, M., Seshagiri, S., Brady, K., Chen, P., Ferenz, C., Franklin, S., Ghayur, T., and Li, P. 1995. Inhibition of ICE family proteases by baculovirus antiapoptotic protein p35. Science 269: 1885-1888.
4. Rothe, M., Pan, M.G., Henzel, W.J., Ayres, T.M., and Goeddel, D.V. 1995. The TNFR2-TRAF signaling complex contains two novel proteins related to baculoviral inhibitor of apoptosis proteins. Cell 83: 1243-1252.
5. 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.
6. 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.
7. 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.

SOURCE

survivin (1-142) is expressed in *E. coli* as a 43 kDa tagged fusion protein corresponding to amino acids 1-142 of survivin of human origin.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

PRODUCT

survivin (1-142) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

survivin (1-142) is suitable Western blotting control for sc-8806, sc-8807, sc-8808, sc-8809, sc-10811 and sc-17779.

RESEARCH USE

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