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ProductInformation

Anti-Survivin
Developed in Rabbit
IgG Fraction of Antiserum

Product Number **S 8191**

Product Description

Anti-Survivin is developed in rabbit using a synthetic peptide corresponding to the C-terminus of human survivin (amino acids 122-142), conjugated to KLH as immunogen. This sequence is highly conserved (>70%) in rat and mouse survivin. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-Survivin, detects human survivin by immunoblotting (16 kDa). Staining of survivin in immunoblotting is specifically inhibited by the survivin immunizing peptide (human, amino acids 122-142).

Progression of the cell cycle and control of apoptosis are crucial and intimately linked processes, acting during development, normal cellular differentiation and tissue homeostasis in all multicellular organisms. Survivin (TIAP, BIRC5), (16 kDa) is a member of the inhibitors of apoptosis (IAP)/BIRP gene family, which includes XIAP, c-IAP-1, c-IAP-2, ILP-2, NAIP, Livin, and Apollon.[1-4] IAP proteins are structurally characterized by the presence of one to three copies of a baculovirus IAP repeat (BIR), consisting of an approx. 70 amino acid zinc finger fold, and a RING finger domain. Several members of the IAP family block apoptosis by directly interacting with initiator and effector caspases and preventing their proteolytic processing and enzymatic activity. Unlike other IAPs, survivin contains only one BIR copy, a C-terminal RING finger and is unique for its dimeric structure.

Survivin is required for cell viability maintenance in mitosis, potentially coupling apoptosis to control cell division. It is selectively expressed during mitosis in G2/M phase and is localized to mitotic spindle microtubules and midbodies of dividing cells. Antisense targeting of survivin results in increased caspase-3 activity during mitosis, dysregulation of centrosome, and mitotic progression, and cell death at G2/M phase of the cell cycle.[2-3, 5] Survivin associates with cyclin-dependent kinase $p34^{cdc2}$ on the mitotic apparatus, and is phosphorylated at Thr^{34} by $p34^{cdc2}$- cyclin B1.[6] Loss of phosphorylation on Thr^{34} results in dissociation of the survivin-caspase-9 complex on the mitotic apparatus, and a caspase-9-dependent cell death in the G2/M phase. Survivin is highly expressed in embryonic and fetal tissues, but is undetectable in terminally differentiated adult tissues.[1, 7] Survivin is over-expressed in a variety of human tumors, including adenocarcinomas of lung, pancreas, breast, colon, stomach, prostate, as well as in squamous lung cell carcinoma, acute myelogenous leukemia, large cell non-Hodgkin lymphoma, neuroblastomas, and melanomas.[1, 8-12] Expression of a phosphorylation defective survivin mutant Thr^{34} to Ala triggers apoptosis in human melanoma cell lines *in vitro* and *in vivo* and inhibits melanoma tumor growth in mice,[13] suggesting that manipulation of the anti-apoptotic pathway maintained by survivin may be useful in cancer therapy.

Reagent

Anti-Survivin is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

For immunoblotting, a minimum working antibody dilution of 1:500 is recommended using a whole cell extract of human epitheloid carcinoma HeLa cell line treated with thymidine.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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