

## **HIGH EXPRESSION LEVELS OF SURVIVIN PROTEIN DOES NOT ABOLISH UV-INDUCED APOPTOSIS IN SCL-II CELLS**

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Survivin is a member of the inhibitors of apoptosis and has been implicated in both the regulation of cell division and the suppression of apoptosis. Whereas over-expression of survivin correlates with an unfavourable prognosis in many malignant tumours, siRNA against survivin causes a reduction of cell proliferation, the induction of apoptosis and an enhanced radiosensitivity of squamous cell carcinoma cell lines and other tumour cell lines.

The apoptotic response and the survivin protein expression levels in the squamous cell carcinoma derived SCL-II cell line were analyzed after exposure to ionizing radiation (IR) and UV radiation.

Apoptosis was assessed by PARP cleavage and by flow cytometry (Annexin V-FITC/ PI assay). SCL-II showed a low induction of apoptosis after exposure to IR but a strong apoptotic response after exposure to UV (25% apoptotic cells 5 h after UV), which correlated with PARP cleavage and characteristic changes in cell morphology like membrane blebbing and formation of apoptotic bodies. Cell cycle analysis revealed that exposure to UV, but not IR, induced a G<sub>1</sub> checkpoint arrest in SCL-II cells.

There was no change in survivin protein expression after exposure to IR and UV compared to controls. One of the used survivin antibodies detected a subband (28 kDa) which correlated with the apoptotic state of SCL-II cells.

Conclusions: Survivin expression does not interfere with apoptosis induction in SCL-II cells. UV triggers apoptosis in SCL-II cells is not abolished by a high expression level of survivin. Apoptosis in SCL-II cells seems to be associated with cell cycle perturbations.