

The effect of siRNA-Egr-1 and camptothecin on growth and chemosensitivity of breast cancer cell lines

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We have examined the effects of a siRNA targeting the Egr-1, alone or in combination with the breast cancer therapeutic camptothecin (Cpt), in suppressing breast cancer cell survival and anchorage-independent growth in the breast cancer cell lines SK-BR3 and MCF-7. In mammary and lung tumors, as well as most normal tissues, Egr-1 expression is low, suggesting a possible relation between the low levels of Egr-1 and the development of mammary neoplasias. However, analyses of the expression of Egr-1 in breast carcinoma cells, SK-BR3 and MCF-7 demonstrated a relatively high expression of the endogenous Egr-1 in these cells. To investigate the effect of the blocking of the endogenous Egr-1 in breast cancer cells, we used small interfering RNA (siRNA) against Egr-1 alone or in combination with Cpt, and expected that the cell sensitivity to chemotherapeutic drug would increase, when blocked with the Egr-1 gene and treated with Cpt. Thus, we performed in vitro experiment to clarify the effect