IN VIVO DELIVERY OF RECOMBINANT MURINE ENDOSTATIN FROM GENETICALLY ENGINEERED CHO CELLS IMPLANTED WITHIN AN IMMUNOISOLATION DEVICE IN MOUSE MODEL

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Endostatin is a potent antiangiogenic protein which have demonstrated antitumor activity in mouse models. Continuous delivery of this therapeutic protein to the systemic circulation would be an optimal treatment for tumors. The Theracyte system is a semipermeable membrane encapsulation system for implantation of cells genetically engineered for therapeutic protein delivery *in vivo*. CHO cell lines which express high levels (20 µg/10^6 cells/24 hours) of murine endostatin were loaded into devices which were previously implanted into SCID mice. We detected growing levels of up to 3,7 µg of endostatin/mL of serum from the animals throughout the two month duration of the study. In contrast, animals implanted with the same amount of free cells showed higher serum levels (up to 6,7 µg/mL), but all the animals dyed before one month of treatment because the engineered CHO cells developed tumors in the mice. This study demonstrated that the immunoisolated recombinant cells produces continuously high levels of the antiangiogenic protein endostatin, possibiliting the combat of tumoral growth and their metastases.

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