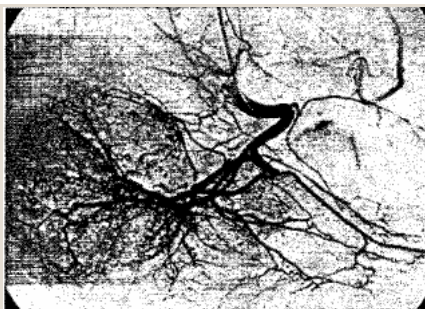


Intra-arterial Carrier System for Local Delivery of Therapy Genes in Tumour Treatment

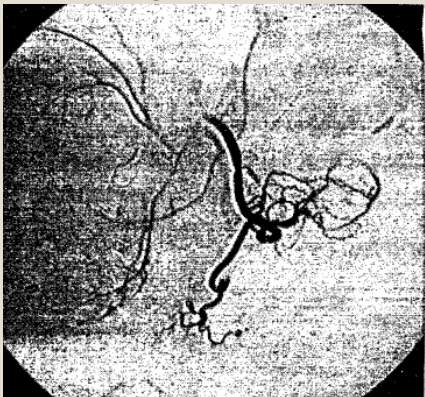
Reference Number: TO 03-00041

Challenge

The delivery of therapeutic genes is critical in achieving a safe and locally restricted therapy effect in the target tissue and also gene therapy success strongly depends on transfection efficiency of the delivery method. The viral systems currently available are either limited in efficiency or can only be used once in a patient's life.



Angiographic picture of a tumour upon simultaneous application of embolization and contrast agent



Angiographic picture of a tumour upon application of contrast agent without embolization

Technology

The technology discloses a novel therapeutic mixture comprising a liposomal delivery formulation of therapy genes, like cell suicide genes, polymer particles for embolization, and contrasting agents for the monitoring of embolization.

Temporary embolization of the vasculature is an established tool for increasing the local concentration of therapeutic drugs and diffusion into the tissue via restriction of blood stream in a defined area. The angiogenic network of tumours can be particularly well targeted by this technique. Upon combination of embolization with liposomal delivery of therapeutic genes and continuous embolization monitoring, gene therapy can be focussed on a defined region and applied in a locally controlled manner. The combined use of these agents shows a remarkable transfection efficiency of about 60-70%.

Commercial Opportunity

Exclusive in-licensing opportunity for clinical development and application.

Developmental Status

Pre-clinical validation of a delivery model with therapeutic drugs are available. Use of therapeutic genes has been preliminarily shown (confidential).

Patent Situation

Granted European Patent (EP 1037670, validated in AT, BE, CH, DE, FR, GB, IT, NL) and pending applications in USA (10/355,933) and Japan (2000-538719).

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