

Technology Offer

Expression System for Therapy-Induceable Genes

Reference Number
TO 03-0097

The Challenge

For the majority of tumors chemotherapy is the widely used standard treatment. Despite a series of tumor-specific and individualized therapeutic regimes there is still a pressing demand for more efficiency and for a therapeutic system with an enforced cytotoxic effect of the chemotherapeutic agent on the tumor cells.

The Technology

The present invention consists of promoter-gene-constructs in which the promoter drives the expression of a downstream orientated therapeutic active gene, e.g. a cytokine gene. For the transfer of the construct into the tumor cells different standard methods are applicable. After transfer of the construct the promoter will be induced by the chemo-therapeutic agent a patient is treated with and thus the therapeutic active gene is expressed.

As a result, the "classical" chemotherapeutic substance is now used in two ways: first as a cytotoxic agent and second as an inducer of therapy-relevant gene expression.

At best the new therapeutic approach will have a synergistic effect on the applied chemotherapy and thus no additional treatment time is required.

For MDR1-Promoter-gene-construct there is in-vivo proof of concept.

Commercial Opportunity

Development of cancer treatment which accompanies and supports chemotherapy.

- collaborative preclinical/clinical phases

Patent situation

The invention is protected by two patent families:

- I) MDR1 promoter-gene-construct: Priority 1992, granted patent in US, EP (validated in AT, BE, CH, DE, DK, FR, GB, IE, IT, LU, NL, SE), pending in JP.
- II) LRP/MVP promoter-gene-construct: Priority 2000, pending in US and EP

Further Reading

Walther et al., Cancer Gene Therapy, 2000, Vol.7, No 6, pp 893-900

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