

## **New Anti-tumor active metal compounds**

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Since the discovery of cisplatin in the sixties, platinum Antitumor drugs have come to be among the bestselling Antitumor compounds today. Especially oxaliplatin reaches the stage of a so-called blockbuster. This development prompted inorganic chemists to search for antitumor-active metal complexes which do not contain platinum as central metal. With the aim to overcome the typical limitations of platinum antitumor therapy the most promising and highly developed metal complexes are those with gallium or ruthenium as central metal. Gallium, which is known as a ribonucleotid-reductase inhibitor, failed to be really successful in clinical studies due to the low bioavailability when applied orally. The new gallium complex KP 46 - FC11 which had finished the Phase I Studies could overcome these limitations and is characterized by a high tissue accumulation. In preclinical studies on the antitumor activity against different tumor models induction of apoptosis and reduction of tumor-induced hypercalcaemia could be shown. In the clinical Phase I studies, efficacy against renal cell carcinoma with one remission and two stable diseases, one lasted more than six months, was observed. The compound is now prepared for Phase II studies. Furthermore, a ruthenium compound, KP 1019-FFC 14a, also successfully finished the Phase I studies with stable disease in most patients. The compound is accumulated in the tumor via the transferrin-cycle and probably in part also by albumin via the EPR-effect. The compound interacts with different biomolecules, among these also direct interaction with DNA may be possible and the final apoptosis follows the mitochondrial pathway. In preclinical experiments, high activity against different primary explanted human tumors and against an experimental colo-rectal tumor model - together with promising Phase I results - caused us to prepare Phase II studies.