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in kemijsko tehnologijo

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*VABILO NA PREDAVANJE
V OKVIRU DOKTORSKEGA ŠTUDIJA
KEMIJSKE ZNANOSTI*

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z naslovom:

**Development and evaluation of novel
anticancer compounds**

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Vljudno vabljeni!

Abstract:

Modern systemic cancer therapy has progressed into several novel directions, leading to improved clinical outcome even in many patients with advanced and metastatic disease. Important contributors are e.g. the elucidation of the human genome and novel –omics technologies allowing the introduction of personalized medicine approaches into cancer therapy. Additionally, novel developments in the field of immunotherapy, like checkpoint inhibitors, have revolutionized systemic cancer therapy. Also in the field of anticancer metal drugs, these developments have facilitated the better understanding of the modes-of-action but also resistance mechanisms against these successful anticancer compounds. Such, it has emerged recently that also classical metal drugs like cisplatin or oxaliplatin not only induced DNA damage and cancer cell death but might boost anticancer immune responses as well. Additionally, the particular physico/chemical of the metals used, like platinum or ruthenium, allows the application of prodrug strategies enabling e.g. release of the active compound specifically in the malignant tissue. This should promote enhanced anticancer activity combined with reduced adverse effects. In this talk, an overview will be given on the recent developments for the design of novel anticancer metal compounds in a cooperative translational research platform between the Department of Inorganic Chemistry at Vienna University and the Institute of Cancer Research at the Medical University Vienna. Examples for 1) identification of novel modes-of-action of already used anticancer compounds, 2) the dissection of resistance mechanisms against novel compounds in clinical testing and 3) the development of tumor-activated platinum prodrugs based on albumin-binding, currently in preclinical evaluation, will be portrayed in depth.