

December 12 & 13, 2014

ChemBioMed IV - From Basic Mechanisms to Tumor Biology

Dear colleagues,

our meeting focuses on three main topics: proteases, cancer and natural products. Proteolysis is not only a critical requirement for life, but proteases are also key enzymes for numerous pathological conditions, including cancer. Therefore, proteases are of academic and clinical interest, and also important drug targets for industry. However, to effectively modulate proteases, a profound knowledge of their mechanistic function, as well as of the involved pathways in health and disease are required. In this respect, natural products are an important source of potentially antiproteolytic drugs, however only a small fraction has been utilized so far for therapeutic purposes. Albeit their chemical complexity poses challenges regarding synthesis, it is this complexity, which also confers unique biological properties. Consequently, we invite you to join lectures covering innovative targets, novel mechanistic and experimental aspects, as well as new compounds from both nature and rational design. As in the previous years, our meeting addresses researchers from medicine, chemistry, pharmacology, biology, chemo- and bioinformatics - sharing an interest in the interdisciplinary field of protease research. Join us in Mainz to 'learn from nature and rational design', bring in young colleagues to start transdisciplinary collaborations to more successfully exploit this exciting reservoir in the future.

With best regards,
Tanja Schirmeister, Roland Stauber, Walter Stöcker

Friday, December 12th

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- 12.00 **Welcome-Lunch**
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- 13.00 **Introduction**
- 13.15 **Chemical Oncology**
Daniel Rauh, Dortmund
- 13.45 **Fungal Endophytes as Sources for New Bioactive Compounds**
Peter Proksch, Düsseldorf
- 14.15 **Development of cyclic plasmin inhibitors with excellent potency, selectivity and antifibrinolytic activity**
Torsten Steinmetzer, Marburg
- 14.45 **The marine compound cyclotheonamide E4 as nature's blueprint for tryptase inhibitors**
Norbert Schaschke, Aachen
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- 15.15 **Coffee break**
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- 15.50 **Synthesis and biological evaluation of protease-targeting natural products**
Markus Kaiser, Essen
- 16.20 **Transactivation of EGFR in colorectal cancer by meprin alpha**
Christoph Becker-Pauly, Kiel
- 16.50 **MMP-12 in atherosclerosis: a target for drug delivery**
Vincent Dive, Paris

- 17.20 **Trying to catch the 20S proteasome b5 subunit with a mouse trap**
Boris Schmidt, Darmstadt
- 17.50 **From fly to man - Taspase 1 as a model for protease evolution?**
Desirée Wünsch, Mainz
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- 19.00 **Dinner (Kupferbergterrasse)**
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Saturday, December 13th

- 09.15 **Current and Future Trends in Proteasome Drug Development**
Michael Groll, München
- 09.45 **Protease problem? Bioinformatics helps: Computational study of protein interaction networks**
Miguel Andrade, Mainz
- 10.15 **A succinimide-driven peptide ligase in the cysteine protease legumain: mechanism and relevance**
Hans Brandstetter, Salzburg
- 10.45 **Proteases in Cancer Progression**
Christoph Peters, Freiburg
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- 11.15 **Coffee break**
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- 11.50 **Intramembrane proteolysis**
Marius Lemberg, Heidelberg