

Editorial



Guido Koch

Medicinal Chemistry

The scientific discipline of medicinal chemistry has a long tradition in central Europe and Switzerland. This special issue of CHIMIA on medicinal chemistry covers multiple aspects of modern drug discovery including different modalities, scientific highlights from all drug discovery phases and innovative enabling strategies and technologies. Invited authors from academia and industry have contributed to highlight some of the most important scientific topics in the field.

Exemplified by Digifolin (cover picture), a digitalis preparation containing the therapeutically active constituents of the digitalis leaf, many of the discoveries in the first decades of medicine were based on natural products. In the 21st century, nature still is a very important source for novel chemical structures to uncover new biology and pharmaceutical mode of actions. **Profs Altmann** and **Waldmann** describe their recent approaches of accessing the diversity of natural products and its use for new insights in biological mechanisms and applications in drug discovery. The analysis of the chemistry space from a computational and pharmacology perspective is addressed in the article by **Prof. Reymond**. **Dr. Boss** provides an insight on how some of these findings and other important success factors are taken into consideration when designing industrial screening collections.

Over recent years, developments have emerged towards novel approaches to tackle more challenging biological targets. Examples are provided by **Dr. Ermert** presenting insights in the design and use of macrocycles in medicinal chemistry and by **Prof. Winssinger** on the use of covalent inhibitors inspired by natural products. Target and tissue specific delivery of potent drugs opens new opportunities in medicinal chemistry. The contribution by **Prof. Neri** highlights recent developments for applying cytotoxic drug conjugates for tumor targeting.

The discovery of novel drugs is an interdisciplinary scientific endeavor. The reviews on p53-MDM2 protein–protein interaction inhibitors by **Dr. Holzer** and T-type calcium channel blockers by **Dr. Bezençon** provide state of the art case stories for different therapeutic areas.

I would like to thank all the authors for their excellent contributions. We hope you will enjoy this special edition on medicinal chemistry and will share our fascination for this important scientific discipline.

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