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Editorial

Foreword



This special issue is devoted to recent advances in unraveling molecular mechanisms of intrinsic or extrinsic resistance in the treatment of tumors and infections with microbial pathogens, and in the identification and development of new natural product-based, bioactive compounds that can overcome such mechanisms. Both forms of diseases are characterized by numerous resistance mechanisms against currently available drugs, and known resistance mechanisms of tumors and microbial pathogens show functional similarities. Efforts aiming at a combined study of antitumor and antimicrobial activities are thus expected to lead to scientific synergies. Natural products and analogs inspired by natural products derived from stress-exposed and hitherto rarely investigated marine organisms and fungal endophytes provide a particularly valuable pool for new lead structures and inspirations for novel molecular tools. The articles collected in this special issue reflect some of the challenges encountered during that work. They also

describe the collaborative efforts, encompassing the fields of natural product research, micro- and cell biology, immunology, biochemistry, organic and medicinal chemistry, toxicology, molecular modeling and simulation, and structural biology, of scientists of the German Research Foundation (DFG)-funded Research Training Group 2158 and additional experts to overcome these challenges.

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