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PROGRAMME

26 – 28 January 2021 · Virtual Conference

Advances in Chemical Biology

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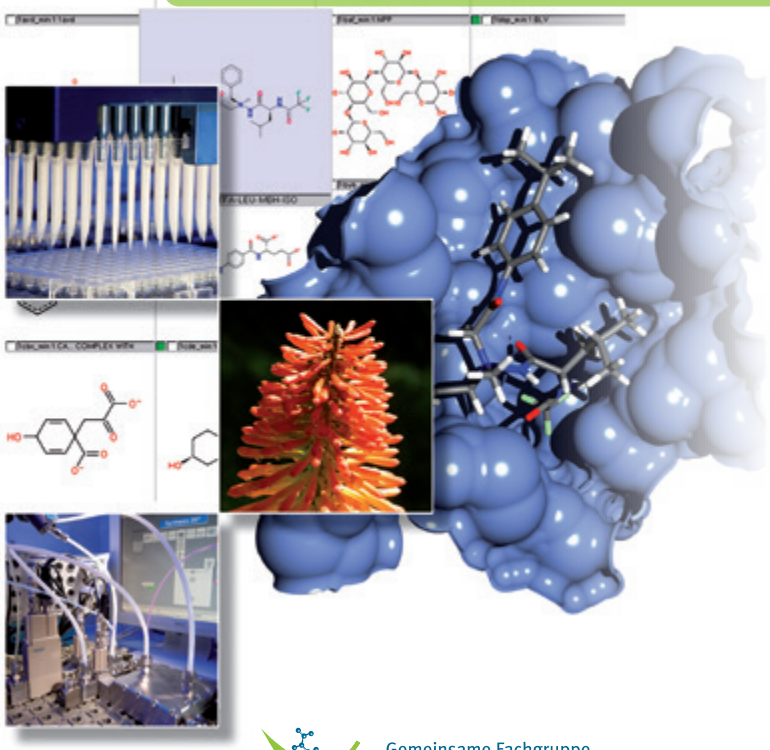

Gemeinsame Fachgruppe
Chemische Biologie

GDCh

BIOCHEMIE

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No proof by DECHEMA.

Tuesday, 26 January 2021

09:00 – 11:30	**Tutorial on proteolysis targeting chimeras (PROTACs)** K. Ritter, Frankfurt am Main/D
	Chair:
12:00	**Welcome**
12:05	**Chemical-proteomic strategies to fight multiresistant bacteria** S. Sieber[1]; [1] TU München, München/D
12:30	**Multicomponent Supramolecular Polymers as a Platform for the Design of Glycoconjugate Vaccines** P. Besenius[1]; [1] Johannes Gutenberg-University Mainz, Mainz/D
12:45	**Siege vs Trojan Horse Strategy: Design of Drug Conjugates to Fight Bacterial Infections** M. Brönstrup[1]; [1] Helmholtz-Zentrum für Infektionsforschung GmbH, Braunschweig/D
13:00	**Sequence-specific synthesis of DNA-protein conjugates** E. Weinhold[1]; G. Hanz[1]; M. Rauser[1]; [1] RWTH Aachen University, Aachen/D
13:15	**Discussion with the speakers of the previous session**
13:25	Coffee break
	Chair:
13:45	**EPR distance measurements on long non-coding RNAs** S. Kath-Schorr[1]; [1] Universität zu Köln, Köln/D
14:00	**DNA-encoded chemical libraries: cheminformatics - reaction development – compound identification** A. Brunschweiger[1]; [1] TU Dortmund University, Dortmund/D
14:15	**Oligonucleotides with partially zwitterionic and cationic backbone structures** C. Ducho[1]; [1] Universität des Saarlandes, Saarbrücken/D
14:30	**Discussion with speakers of the previous session**
14:40	**Inositol pyrophosphates – chemical tools for multimodal messengers** D. Fiedler[1]; D. Furkert[2]; S. Hostachy[2]; J. Morgan[2]; A. Celik[2]; M. Nadler-Holly[2]; F. Liu[2]; [1] Leibniz-Forschungsinstitut für Molekulare Pharmakologie im Forschungsverbund Berlin e.V. (FMP), Berlin/D; [2] Leibniz-Forschungsinstitut für Molekulare Pharmakologie (FMP), Berlin/D
15:05	Coffee break
	Chair:
15:25	**Presentations of Journal Editors**
15:40	**Poster FlashTalks (short lectures of selected posters)**
16:10	**Poster Exhibition**

Wednesday, 27 January 2021

Chair:

09:00 **Semisynthetic sensor proteins for basic research and medicine**
K. Johnsson[1]; [1] Max Planck Institute for Medical Research, Heidelberg/D

09:25 **Artificial light regulation of allosteric multi-enzyme complexes**
A. Kneuttinger[1]; R. Sterner[1]; [1] University of Regensburg, Regensburg/D

09:40 **Bioorthogonal Turn-on Probes for Photodynamic Therapy**
G. Linden[1]; L. Zhang[1]; O. Vázquez[1]; [1] Philipps-Universität Marburg, Germany, Marburg/D

09:55 **Enlightening actin dynamics by small molecule photoswitches**
H. Arndt[1]; [1] Universität Jena, Jena/D

10:10 **Discussion with the speakers of the previous session**

10:20 Coffee break

Chair:

10:40 **Engineered SAM synthetase allows reversible photo-caging of DNA**
F. Michailidou[1]; [1] , Zurich/CH

10:55 **Repurposing Different E3 ligases for Targeted Degradation**
C. Steinebach[1]; Y. Ng[2]; M. Gütschow[1]; J. Krönke[2]; [1] Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn/D; [2] Charité - Universitätsmedizin Berlin, Berlin/D

11:10 **Semi-synthesis of the biologically active natural product Brasilicardin A**
P. Koch[1]; H. Groß[2]; [1] Universität Regensburg, Regensburg/D; [2] Eberhard Karls Universität Tübingen, Tübingen/D

11:25 **Getting the Most Out of Your OSMAC Experiments - Culture Condition Triaging and Multivariate Approaches for increased Natural Product Discovery**
S. Lütz[1]; J. Schwarz[2]; [1] TU Dortmund University, Dortmund/D; [2] TU Dortmund, Lehrstuhl für Bioprozesstechnik, Dortmund/D

11:40 **Discussion with the speakers of the previous session**

11:50 Lunch break

Wednesday, 27 January 2021

Chair:

12:50 **Systems Biochemistry of Peptido RNA**
C. Richert[1]; P. Tremmel[1]; [1] University of Stuttgart, Stuttgart/D

13:05 **Chemerin: From protein-protein interaction to small cyclic peptide agonists**
A. Beck-Sickinger[1]; [1] Universität Leipzig, Leipzig/D

13:20 **Flow-based Synthesis of Chemically Modified Peptides and Proteins**
N. Hartrampf[1]; [1] Universität Zürich, Zürich/CH

13:35 **Biosynthetic Design of Nonribosomal Peptides**
H. Kries[1]; [1] Leibniz-Institut für Naturstoff-Forschung und Infektionsbiologie – Hans-Knöll-Institut e.V., Jena/D

13:50 **Discussion with the speakers of the previous session**

14:00 Coffee break

Chair:

14:20 **Semisynthetic approaches for studying post-translational modifications**
M. Rubini[1]; [1] University College Dublin, Dublin/IRL

14:35 **Using synthetic and structural biology to characterise posttranslational lysine-acetylation in cellular function, ageing and disease**
M. Lammers[1]; [1] University Greifswald, Greifswald/D

14:50 **Discussion with the speakers of the previous session**

15:00 Short break

Chair:

"Förderpreis" Biochemie (short lectures)

15:05 **Chemoselective synthesis of functional drug conjugates**
M.-A. Kasper[1]; [1] Tubulis GmbH, Berlin/D

Site-specific ubiquitylation and SUMOylation using genetic-code expansion and sortase
M. Fottner[1]; [1] TU München, Munich/D

Willstätter-Preis

15:20 **Laudatio „Willstätter-Preis"**

15:25 **Pseudo Natural Products – Chemical Evolution of Natural Product Structure**
H. Waldmann[1]; [1] Max-Planck-Institut für Molekulare Physiologie, Dortmund/D

15:50 **General Meeting of the joint working group Chemical Biology**

Thursday, 28 January 2021

Chair:

09:00 **KEYNOTE**
Ribozymes meet RNA modifications
C. Höbartner[1]; [1] Universität Würzburg, Würzburg/D

09:25 **Development of chemicals targeting Cas9 stability**
R. Gama-Brambila[1]; J. Chen[1]; X. Cheng[1]; [1] Goethe-University Frankfurt am Main, Frankfurt am Main/D

09:40 **Targeting the Protein Kinase p70S6Kβ with Non-Canonical Electrophilic Warheads**
L. Haarer[1]; S. Gerstenecker[1]; S. Laufer[1]; M. Gehringer[1]; [1] Eberhard Karls Universität Tübingen, Tübingen/D

09:55 **Covalent Inhibitors for the Proteome-wide Identification of New Druggable Targets for Antibiotics**
P. Zanon[1]; L. Lewald[1]; M. Zollo[1]; K. Bach[1]; B. Beerkens[1]; S. Hacker[1]; [1] Technical University of Munich, Garching/D

10:10 **Discussion with the speakers of the previous session**

10:15 Coffee break

Chair:

10:35 **Rational Design of Selective HDAC10 Chemical Probes**
A. Miller[1]; [1] German Cancer Research Center (DKFZ), Heidelberg/D

10:50 **Chemical tools for targeting the proteases of SARS-CoV-2**
T. Böttcher[1]; [1] Universität Konstanz, Konstanz/D

11:05 **Morphological Profiling of Small Molecules for Mode-of-Action Prediction**
S. Ziegler[1]; [1] Max-Planck-Institut für Molekulare Physiologie, Dortmund/D

11:20 **Chemical probes for dithiol-disulfide oxidoreductases**
O. Thorn-Seshold[1]; [1] LMU Munich, Munich/D

11:35 **Discussion with the speakers of the previous session**

11:45 Lunch break

Thursday, 28 January 2021

Chair:

12:40 **Application of SNAP-tagged Tools in Chemical Biology**
T. Stafforst[1]; [1] Universität Tübingen, Tübingen/D

12:55 **Unique Chemical Biology Tools for Advanced Metabolomics and Microbiome Metabolism Analysis**
W. Lin[1]; M. Correia[1]; L. Conway[1]; A. Jain[1]; T. Vallianatou[1]; D. Globisch[1]; [1] Uppsala University, Uppsala/S

13:10 **Manipulating and measuring inositol (pyro)phosphate turnover in cells**
D. Qiu[1]; H. Jessen[2]; [1] Albert-Ludwigs Universität Freiburg, Freiburg/D; [2] Albert Ludwigs Universität Freiburg, Freiburg/D

13:25 **Discussion with the speakers of the previous session**

13:30 **Ancient Pathogen Genomics: What we learn from past pandemics**
J. Krause[1]; [1] Max Planck Institute for Evolutionary Anthropology, Leipzig/D

13:55 **Wrap up and Closure**

P 01 **Structure optimization of Albicidin, a new antibacterial lead structure**
K. Hommernick[1]; [1] Technische Universitaet Berlin / Institut für Lebensmitteltechnologie und Lebensmittelchemie, Berlin/D

P 02 **Splitting single protein NRPSs into independent units allows the simplified generation of novel peptides**
N. Abbood[1]; K. Bozhüyük[1]; H. Bode[1]; [1] Goethe Universität Frankfurt am Main/D

P 03 **Identification and biosynthesis of a non-ribosomal tripeptide with unusual amino acid building blocks in the entomopathogenic bacterium Xenorhabdus hominickii**
M. Westphalen[1]; J. Chekaiban[1]; Y. Shi[1]; H. Bode[1]; [1] Goethe Universität Frankfurt am Main/D

P 04 **A natural product from a native C. elegans microbiota isolate increases host resistance to infection against pathogenic bacteria**
M. Drechsler[1]; L. Peters[2]; K. Kissoyan[2]; Y. Shi[1]; P. Grün[1]; K. Dierking[2]; H. Bode[1]; [1] Goethe Universität Frankfurt am Main/D; [2] Christian-Albrechts-Universität zu Kiel/D

P 05 **A Convergent Total Synthesis of the Death Cap Toxin α-Amanitin**
C. Knittel[1]; M. Siegert[1]; R. Süßmuth[1]; [1] TU Berlin/D

P 06 **Development of chemical tools to selectively manipulate the catalytic activity of the lipid kinase PIP5K1α in cancer cells**
E. El-Awaad[1]; K. Strätker[1]; S. Haidar[2]; D. Aichele[1]; Á. Amesty[3]; A. Estévez-Braun[3]; J. Jose[1]; [1] Westfälische Wilhelms-Universität Münster/D; [2] Damascus University, Damascus/SYR; [3] Universidad de La Laguna, Tenerife/E

P 07 **Biosynthesis and structures of benzoxazolinate natural products in Pseudomonas chlororaphis subsp. piscium DSM 21509**
J. Crames[1]; [1] J. W. Goethe University Frankfurt am Main/D

P 08 **Total Synthesis of Cochinmicin I and Its Role as Potent Cyclodepsipeptide Endothelin Antagonist**
R. Schnegotzki[1]; R. Süssmuth[1]; [1] TU Berlin/D

P 09 **Implementing photocontrol and orthogonal targeting in the SNAP-ADAR editing approach**
A. Stroppel[1]; A. Hanswillemenke[1]; M. Blackholm[1]; T. Stafforst[1]; [1] University of Tübingen/D

P 10 **Peptidomimetic as Epigenetic Tools for Protein Complex Modulation**
V. Trinh[1]; L. Albert[1]; O. Vázquez[1]; [1] Philipps-Universität Marburg/D

P 11 **The inside matters: On the role of core methionine residues for dynamics, folding and oligomerization of a spider silk protein N-terminal domain**
U. Hellmich[1]; [1] Johannes Gutenberg-Universität Mainz/D

P 12 **Impact of site-specific non-enzymatic posttranslational modification on the structure-activity attributes of human Heat Shock Protein 27 (Hsp27)**
S. Mukherjee[1]; [1] Institute of Biological Chemistry, University of Vienna/A

P 13 **Detection of Modulators of the Kynurenine Pathway in Cells**
E. Hennes[1]; S. Ziegler[1]; H. Waldmann[1]; [1] Max Planck Institute of Molecular Physiology, Dortmund/D

P 14 **Exploring the Biocatalytic Potential of cGAS for Cyclic Dinucleotide Synthesis**
K. Rosenthal[1]; J. Rolf[1]; R. Siedentop[1]; M. Becker[1]; S. Lütz[1]; [1] TU Dortmund University, Dortmund/D

POSTERPROGRAMM

P 15 **Traceless peptide caging of oligonucleotides**
F. Liedl[1]; [1] FSU Jena/D

P 16 **Malic enzyme is a novel target of resveratrol**
E. Tanzil[1]; R. Lang[1]; S. Wälter[1]; J. Müller[2]; J. Franke[1]; [1] HTW Berlin/D; [2] University of Birmingham/UK

P 17 **Dual-Activatable Cell Tracker for Controlled and Prolonged Single-Cell Labeling**
S. Püntener[1]; E. Halabi[2]; J. Arasa[2]; V. Collado-Diaz[2]; C. Halin[2]; P. Rivera-Fuentenes[1]; [1] EPFL, Lausanne/CH; [2] ETH Zürich/CH

P 18 **Structural features of small molecules targeting the RNA repeat expansion that causes genetically defined ALS/FTD**
A. Ursu[1]; K. Wang[2]; J. Bush[1]; S. Choudhary[1]; J. Chen[1]; J. Baisden[1]; Y. Zhang[3]; T. Gendron[3]; L. Petrucelli[3]; I. Yildirim[2]; M. Disney[1]; [1] The Scripps Research Institute, Jupiter, Florida/USA; [2] Florida Atlantic University, Jupiter, Florida/USA; [3] Mayo Clinic, Jacksonville, Florida /USA

P 19 **Molecular Activation Profile of tipA in Streptomyces coelicolor**
S. Walter[1]; C. Roessler[1]; T. Winkler[1]; V. Nasufovic[1]; H. Arndt[1]; [1] Friedrich-Schiller-Universität Jena, Jena/D

P 20 **Universal single-residue terminal labels for fluorescent live cell imaging of microproteins**
L. Lafranchi[1]; D. Schlesinger[1]; S. Elsässer[1]; [1] Karolinska Institutet, Solna/S

P 21 **Diversification of a Polyether Antibiotic By Exploitation of post-PKS Promiscuity**
S. Heinrich[1]; M. Grote[1]; S. Kushnir[1]; F. Schulz[1]; [1] Ruhr-University Bochum/D

P 22 **Revisiting the interaction of heme with hemopexin**
M. Detzel[1]; B. Schmalohr[1]; F. Steinbock[1]; M. Hopp[1]; A. Paul George[1]; D. Imhof[1]; [1] Uni Bonn/D

P 23 **Targeting of Gαi/s Protein by Peptidic Guanine Nucleotide Exchange Modulators**
A. Pepanian[1]; B. Nubbemeyer[1]; A. Paul George[2]; T. Kühl[1]; M. Beck[1]; R. Maghraby[1]; M. Shetab Boushehri[1]; M. Mühlhaupt[3]; E. Pfeil[1]; S. Annala[1]; D. Pei[4]; H. Ammer[3]; D. Imhof[1]; [1] Uni Bonn/D; [2] BioSolvIT, Sankt Augustin/D; [3] Ludwig Maximilian University of Munich/D; [4] The Ohio State University, Ohio/USA

P 24 **Encapsulins as prodrug activating nanoreactors**
P. Lohner[1]; M. Zmyslia[1]; J. Thurn[1]; J. Pape[2]; R. Gerasimaite[2]; S. Groeer[1]; A. Walther[1]; S. Hell[2]; G. Lukinavicius[2]; T. Hugel[1]; C. Jessen-Trefzer[1]; [1] Albert-Ludwigs University Freiburg/D; [2] Max Planck Institute for Biophysical Chemistry, Göttingen/D

P 25 **Targeting Latent Persistence of KSHV through Inhibition of LANA-DNA Interaction**
A. Berwanger[1]; P. Kirsch[1]; J. Rinkes[1]; S. Stein[2]; V. Jakob[1]; T. Schultz[2]; M. Empting[1]; [1] Helmholtz Institut für Pharmazeutische Forschung Saarland, Saarbrücken/D; [2] Medizinische Hochschule Hannover (MHH), Hannover/D

P 26 **Discovery of nucleic acid binding molecules from combinatorial biohybrid nucleobase peptide libraries**
S. Pomplun[1]; [1] MIT, Cambridge/USA

P 27 **Histone deacetylases erase histone lactylation**
C. Moreno Yruela[1]; M. Bæk[1]; A. Nielsen[1]; J. Bolding[1]; C. Olsen[1]; [1] University of Copenhagen/DK

P 28 **Increasing fluorophore brightness through engineering of a self-labeling protein tag**
M. Frei[1]; M. Tarnawski[1]; J. Hiblot[1]; K. Johnsson[1]; [1] MPI for Medical Research, Heidelberg/D

P 29 **Towards modulation of polymicrobial communities in chronic lung diseases through targeting the Carbon Storage regulator A (CsrA)**
Y. Wu[1]; B. Zoller[1]; V. Jakob[1]; M. Kappus[2]; M. Hust[3]; M. Empting[1]; [1] Helmholtz Institute for Pharmaceutical Research Saarland (HIPS), Saarbrücken/D; [2] Saarland University, Saarbrücken/D; [3] Technische Universität Braunschweig / Institut für Biochemie, Braunschweig/D

P 30 **Travelling Back in Time: Adding a New Dimension in the Natural Product Space**
M. Klapper[1]; M. Borry[2]; S. Chowdhury[1]; A. Hübner[2]; R. Herbst[1]; I. Velsko[2]; J. Frangenberg[1]; C. Warinner[2]; P. Stallforth[1]; [1] Leibniz Institute for Natural Product Research and Infection Biology – Hans-Knöll-Institute e. V., Jena/D; [2] Max Planck Institute for the Science of Human History, Jena/D

P 31 **Using Hsp40 Affinity to Profile Destabilized Proteomes**
G. Quanrud[1]; J. Genereux[1]; [1] University of California Riverside, CA/USA

P 32 **Studies on the biological properties of nucleoside antibiotics and their analogues**
S. Weck[1]; G. Niro[1]; J. Meiers[2]; C. Ducho[1]; [1] Saarland University, Saarbrücken/D; [2] Helmholtz Institute for Pharmaceutical Research Saarland (HIPS), Saarbrücken/D

P 33 **Photocontrol of DNA Function**
D. Hartmann[1]; [1] University of Oxford/UK

P 34 **From Pan-Inhibitor to Selective HDAC10 Inhibitor by Substitution of a Single Methylene in Vorinostat (SAHA)**
R. Steimbach[1]; J. Hummel-Eisenbeiß[1]; N. Gunkel[1]; A. Miller[1]; [1] Deutsches Krebsforschungszentrum, Heidelberg/D

P 35 **Chemo-Enzymatic Labelling Reactions for Orthogonal Fluorescent Detection of Epigenetic DNA Modifications**
L. Käver[1]; L. Schütz[1]; S. Schönemeier[1]; E. Weinhold[1]; B. Zschörnig[2]; A. Krause[2]; [1] RWTH Aachen Universität, Aachen/D; [2] Jena Bioscience GmbH, Jena/D

P 36 **Detection and Characterization of G-Quadruplex-binding Proteins**
S. Eiden[1]; L. Passchier[1]; V. Rauser[1]; E. Weinhold[1]; [1] RWTH Aachen University - Institut für Organische Chemie, Aachen/D

P 37 **Interfering with DNA Polymerase-dependent Sequencing by sterically demanding Template Modifications**
M. Eiden[1]; E. Weinhold[1]; [1] RWTH Aachen University, Aachen/D

P 38 **Microbiome Associated with Fungus-growing Termite --A hidden Treasure Trove for Drug discovery**
H. Guo[1]; S. Jan[1]; R. Luka[1]; B. Christine[1]; [1] Leibniz Institute for Natural Product Research and Infection Biology e.V. Hans-Knöll-Institute, Jena/D

P 39 **DNA methylation detection guided by docking simulation of the CpG-specific DNA methyltransferase M.MpeI with cofactor analogues**
L. Schütz[1]; J. Gossen[2]; L. Rein[1]; G. Rossetti[2]; E. Weinhold[1]; [1] RWTH Aaachen University, Aachen/D; [2] Forschungszentrum Juelich/D

POSTERPROGRAMM

P 40 **The proteome analysis to determine miR-197-3p therapeutic effect on MCF-7 breast cancer**
D. Cansaran Duman[1]; B. Çolak[1]; [1] Ankara University, Ankara/TR

P 41 **The expression analysis of miRNAs identified using vulpinic acid in breast cancer treatment**
D. Cansaran Duman[1]; B. Çolak[1]; [1] Ankara University, Ankara/TR

P 42 **MT-21 covalently modifies cysteine 120 of fatty-acid binding protein 5, yielding a redox sensitive probe**
E. Svenningsen[1]; [1] Aarhus University, Aarhus C/DK

EXHIBITORS

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