

rsc.li/rsc-chembio

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

## IN THIS ISSUE

ISSN 2633-0679 CODEN RCBSAO 4(4) 247-324 (2023)



### Cover

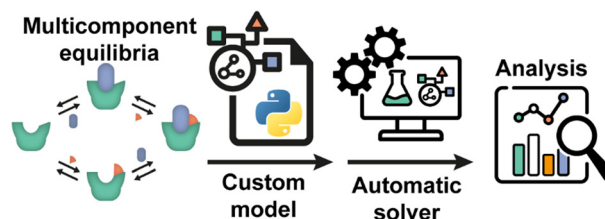
© Christoph Burgstedt/  
Science Photo Library

## PAPERS

252

### Straightforward model construction and analysis of multicomponent biomolecular systems in equilibrium

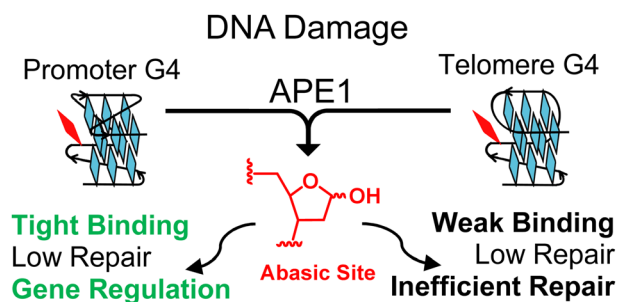
Nick H. J. Geertjens, Pim J. de Vink, Tim Wezeman, Albert J. Markvoort\* and Luc Brunsveld\*



261

### Promoters vs. telomeres: AP-endonuclease 1 interactions with abasic sites in G-quadruplex folds depend on topology

Shereen A. Howpay Manage, Judy Zhu, Aaron M. Fleming\* and Cynthia J. Burrows\*



**Executive Editor**

Anna Rulka

**Deputy Editor**

Audra Taylor

**Editorial Production Manager**

Viktoria Titmus

**Assistant Editors**

Shwetha Krishna, Michael Whitelaw, Alexander Whiteside

**Editorial Assistant**

Samantha Campos

**Publishing Assistant**

Brittany Hanlon

**Publisher**

Neil Hammond

For queries about submitted papers, please contact Viktoria Titmus, Editorial Production Manager in the first instance. E-mail: [chembio@rsc.org](mailto:chembio@rsc.org)

For pre-submission queries please contact Anna Rulka, Executive Editor. Email: [chembio-rsc@rsc.org](mailto:chembio-rsc@rsc.org)

RSC Chemical Biology (electronic: ISSN 2633-0679) is published 12 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

RSC Chemical Biology is a Gold Open Access journal and all articles are free to read. Please email [orders@rsc.org](mailto:orders@rsc.org) to register your interest or contact Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK Tel +44 (0) 1223 432398; E-mail: [orders@rsc.org](mailto:orders@rsc.org)

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office: Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

**Advertisement sales:**

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017;

E-mail [advertising@rsc.org](mailto:advertising@rsc.org)

For marketing opportunities relating to this journal, contact [marketing@rsc.org](mailto:marketing@rsc.org)

# RSC Chemical Biology

[rsc.li/rsc-chembio](http://rsc.li/rsc-chembio)

RSC Chemical Biology publishes exceptionally significant findings in chemical biology

## Editorial Board

**Chair**

Hiroaki Suga, The University of Tokyo, Japan

**Associate Editors**

Claudia Höbartner, University of Würzburg, Germany  
Zaneta Nikolovska-Coleska, University of Michigan, USA

Seung Bum Park, Seoul National University, South Korea

Andrea Rentmeister, University of Münster, Germany

Roderich Süßsmuth, Technical University of Berlin, Germany  
Cai-Guang Yang, Shanghai Institute of Materia Medica, China

**Members**

Michelle Arkin, University of California San Francisco, USA

Jennifer Heemstra, Washington University, St Louis, USA

Ali Tavassoli, University of Southampton, UK

## Advisory Board

Christopher Chang, University of California, Berkeley, USA

Dorothea Fiedler, FMP Berlin, Germany

Christian Hackenberger, FMP Berlin, Germany

Maja Köhn, University of Freiburg, Germany

Yamuna Krishnan, University of Chicago, USA

Jennifer Prescher, University of California, Irvine, USA

Christopher Schofield, University of Oxford, UK

Pamela Silver, Harvard Medical School, USA

Kira Weissman, University of Lorraine, France

Christopher Schofield, University of Oxford, UK

Peng Chen, Peking University, China

Hermen Overkleeft, Leiden University, Netherlands

Xiu-Jie Wang, Bayes Business School London, UK

Don Hilvert, ETH Zürich, Switzerland

Jin Zhang, University of California San Diego, USA

USA

Giulio Superti-Furga, Medical University of Vienna, Austria

Luc Brunsveld, Eindhoven University of Technology, Netherlands

May Khanna, University of Arizona, USA

Paul Joseph Dyson, Swiss Federal Institute of Technology Lausanne, Switzerland

Lei Liu, Tsinghua University, China

Guifang Jia, Peking University, China

Chudi Ndubaku, ORIC Pharmaceuticals, USA

## Information for Authors

Full details on how to submit material for publication in RSC Chemical Biology are given in the Instructions for Authors (available from <http://www.rsc.org/authors>). Submissions should be made via the journal's homepage: [rsc.li/rsc-chembio](http://rsc.li/rsc-chembio)

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)– Reproduced by permission of the Royal Society of Chemistry.

This journal is © The Royal Society of Chemistry 2023.

Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK.

US copyright law is applicable to users in the USA.

Registered charity number: 207890

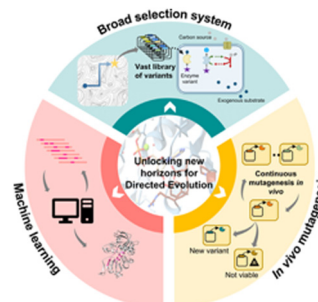


## REVIEW

271

## A primer to directed evolution: current methodologies and future directions

Lara Sellés Vidal,\* Mark Isalan, John T. Heap and Rodrigo Ledesma-Amaro\*

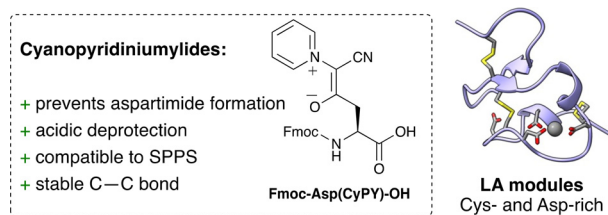


## PAPERS

292

## Synthesis of multi-module low density lipoprotein receptor class A domains with acid labile cyanopyridiniumylides (CyPY) as aspartic acid masking groups

Kevin Neumann, Alex Vujinovic, Saidu Kamara, André Zwicky, Simon Baldauf and Jeffrey W. Bode\*

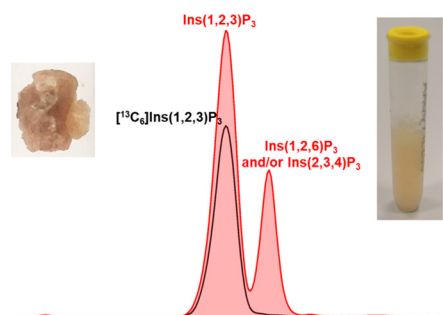


Chemical synthesis of Low Density Lipoprotein Receptor Class A Domains

300

## The phytase RipBL1 enables the assignment of a specific inositol phosphate isomer as a structural component of human kidney stones

Guizhen Liu, Esther Riemer, Robin Schneider, Daniela Cabuzu, Olivier Bonny, Carsten A. Wagner, Danye Qiu, Adolfo Saiardi, Annett Strauss, Thomas Lahaye, Gabriel Schaaf, Thomas Knoll, Jan P. Jessen and Henning J. Jessen\*



310

## SREBP activation contributes to fatty acid accumulations in necroptosis

Daniel Lu, Laura R. Parisi, Omer Gokcumen and G. Ekin Atilla-Gokcumen\*

