

BIOLOGICAL CHEMISTRY

*Founded in 1877 by Felix Hoppe-Seyler as
Zeitschrift für Physiologische Chemie*

Felix Hoppe-Seyler (1825–1895) was a pioneer of biochemistry, remembered not only for his discovery of hemoglobin and his contributions to the chemical characterization of many other biological compounds and processes but also for having been the mentor of Friedrich Miescher and Albrecht Kossel. In his preface to the first issue of *Zeitschrift für Physiologische Chemie*, Felix Hoppe-Seyler coined the term *Biochemistry* ('Biochemie') for the then newly emerging discipline.



Biological Chemistry is associated
with the Gesellschaft für Biochemie und
Molekularbiologie e.V. (GBM)

EDITOR-IN-CHIEF

D. Thomas, Chicago

EXECUTIVE EDITORS

*J. Buchner, Munich
J. Herrmann, Kaiserslautern
M. Lei, Shanghai
S. Ludwig, Münster
B. Turk, Ljubljana
A. Wittinghofer, Dortmund*

EDITORIAL BOARD

*P. Agostinis, Leuven
L. Banks, Trieste
A.G. Beck-Sickinger, Leipzig
L. Bosca, Madrid
B. Brüne, Frankfurt/Main
E. Cadenas, Los Angeles
H. Cheng, Shanghai
O. Daumke, Berlin
I. Dikic, Frankfurt/Main
W.-X. Ding, Kansas City
N. Gekara, Stockholm
F.U. Hartl, Martinsried
D. Häussinger, Düsseldorf
L.-O. Klotz, Jena
V. Magdolen, Munich
M. Müschen, San Francisco
G. Pejler, Uppsala
N. Pfanner, Freiburg
J. Potempa, Krakow
R. Rosenzweig, Rehovot
K. Sandhoff, Bonn
J. Scheller, Düsseldorf
H. Sies, Düsseldorf
K. Winkhofer, Bochum*

ASSOCIATE EDITORS (GBM STUDY GROUPS)

*J.W. Bartsch, Marburg
S. Clemens, Bayreuth
A. Ebert, Göttingen
R. Erdmann, Bochum
K. Giehl, Giessen
S. Hiller, Basel
B. Höcker, Bayreuth
I. Koch, Frankfurt/Main
T. Proikas-Cezanne, Tübingen
J. Riemer, Cologne
C. Seidel, Düsseldorf
C. Villmann, Würzburg
J. Weigand, Marburg
V. Zickermann, Frankfurt/Main*

DE GRUYTER

ABSTRACTED/INDEXED IN AGRICOLA (National Agricultural Library) · Baidu Scholar · Cabells Journalytics · CABI (over 50 subsections) · Case · Chemical Abstracts Service (CAS): CAPlus; SciFinder · CNKI Scholar (China National Knowledge Infrastructure) · CNPIEC: cnpLINKer · Dimensions · EBSCO (relevant databases) · EBSCO Discovery Service · EMBASE · Genamics JournalSeek · Google Scholar · ICAP Alcohol Information Databases · Japan Science and Technology Agency (JST) · J-Gate · Journal Citation Reports/Science Edition · JournalGuide · JournalTOCs · KESLI-NDSL (Korean National Discovery for Science Leaders) · Medline · MyScienceWork · Naver Academic · Naviga (Softweco) · Norwegian Register for Scientific Journals, Series and Publishers · Pathway Studio · Primo Central (ExLibris) · ProQuest (relevant databases) · Publons · PubMed · QOAM (Quality Open Access Market) · ReadCube · Reaxys · SCImago (SJR) · SCOPUS · Semantic Scholar · Sherpa/RoMEO · SIIC Data Bases · Summon (ProQuest) · TDNet · Text Mining · Ulrich's Periodicals Directory/ulrichsweb · WanFang Data · Web of Science; Biological Abstracts; BIOSIS Previews; Current Contents/Life Sciences; Prous Science Integrity; Reaction Citation Index; Science Citation Index; Science Citation Index Expanded · WorldCat (OCLC) · X-MOL · Yewno Discover

The Journal is associated with the Gesellschaft für Biochemie und Molekularbiologie e.V. 

The publisher, together with the authors and editors, has taken great pains to ensure that all information presented in this work (programs, applications, amounts, dosages, etc.) reflects the standard of knowledge at the time of publication. Despite careful manuscript preparation and proof correction, errors can nevertheless occur. Authors, editors and publisher disclaim all responsibility for any errors or omissions or liability for the results obtained from use of the information, or parts thereof, contained in this work.

The citation of registered names, trade names, trademarks, etc. in this work does not imply, even in the absence of a specific statement, that such names are exempt from laws and regulations protecting trademarks etc. and therefore free for general use.

ISSN 1431-6730 · e-ISSN 1437-4315 · CODEN BICHF3

All information regarding notes for contributors, subscriptions, Open access, back volumes and orders is available online at www.degruyter.com/bc.

RESPONSIBLE EDITOR(S) Douglas D. Thomas, Department of Medicinal Chemistry and Pharmacognosy, University of Illinois at Chicago, College of Pharmacy, 900 S. Ashland Avenue (M/C 870), Chicago, IL 60607, USA, e-mail: ddthomas@uic.edu.

JOURNAL COORDINATOR Dr. Torsten Krüger, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany, Tel.: +49 (0)30 260 05-176, Fax: +49 (0)30 260 05-352, e-mail: biol.chem.editorial@degruyter.com

ADVERTISEMENTS e-mail: anzeigen@degruyter.com

© 2023 Walter de Gruyter GmbH, Berlin/Boston

TYPESETTING TNQ Technologies, Chennai, India

PRINTING Franz X. Stücker Druck und Verlag e.K., Ettenheim



Contents

Reviews

Yong Qi Leong, Rhun Yian Koh, Soi Moi Chye and Khuen Yen Ng
Unravelling the genetic links between Parkinson's disease and lung cancer — 551

Reza Alipoor and Reza Ranjbar
Small-molecule metabolites in SARS-CoV-2 treatment: a comprehensive review — 569

Research Articles/Short Communications

Molecular Medicine

Hongpeng Jiang, Yu Zhang, Boya Liu, Xin Yang, Zhe Wang, Meng Han, Huiying Li, Jianyuan Luo and Hongwei Yao
Dynamic regulation of eEF1A1 acetylation affects colorectal carcinogenesis — 585

Elisabetta Marini, Federica Sodano, Barbara Rolando, Konstantin Chegaev, Daniela Claudia Maresca, Angela Ianaro, Giuseppe Ercolano and Loretta Lazzarato
New lipophilic organic nitrates: candidates for chronic skin disease therapy — 601

Cell Biology and Signaling

Simon L. Wadle, Tatjana T.X. Schmitt, Jutta Engel, Simone Kurt and Jan J. Hirtz

Altered population activity and local tuning heterogeneity in auditory cortex of *Cacna2d3*-deficient mice — 607

Chuang-Hong Lu, De-Xin Chen, Kun Dong, Yun-Jiao Wu, Na Na, Hong Wen, Yao-shi Hu, Yuan-Ying Liang, Si-Yi Wu, Bei-You Lin, Feng Huang and Zhi-Yu Zeng

Inhibition of miR-143-3p alleviates myocardial ischemia reperfusion injury via limiting mitochondria-mediated apoptosis — 619

Proteolysis

Trillion Surya Lioe, Ziwen Xie, Jianfang Wu, Wenlong Li, Li Sun, Qiaoli Feng, Raju Sekar, Boris Tefsen and David Ruiz-Carrillo

The *Mycobacterium tuberculosis* prolyl dipeptidyl peptidase cleaves the N-terminal peptide of the immunoprotein CXCL-10 — 633