

REVIEWS IN THE NEUROSCIENCES

EDITOR-IN-CHIEF

Joseph P. Huston, *Düsseldorf*

ASSOCIATE EDITOR

Bianca Topic, *Düsseldorf*

EDITORIAL BOARD

Hojjat Adeli, *Columbus, OH*

Gyorgy Buzsaki, *New York, NY*

Jacqueline N. Crawley, *Bethesda, MD*

Tim J. Crow, *Headington*

Paul E. Gold, *Champaign, IL*

Florian Holsboer, *Munich*

Carsten Korth, *Düsseldorf*

Gert Lubec, *Vienna*

Claudia Mattern, *Emmetten*

Bruce S. McEwen, *New York, NY*

Weihong Pan, *Baton Rouge, LA*

Mikhail V. Pletnikov, *Baltimore, MD*

Trevor W. Robbins, *Cambridge*

Alfons Schnitzler, *Düsseldorf*

Charles F. Stevens, *La Jolla, CA*

Oswald Steward, *Irvine, CA*

John Q. Trojanowski, *Philadelphia, PA*

ABSTRACTED/INDEXED IN AGRICOLA (National Agricultural Library) · Baidu Scholar · Cabell's Directory · Case · Celdes · Chemical Abstracts Service (CAS): CAplus; SciFinder · CNKI Scholar (China National Knowledge Infrastructure) · CNPIEC · EBSCO (relevant databases) · EBSCO Discovery Service · Elsevier: EMBASE; Reaxys; SCOPUS · Gale/Cengage · Genamics JournalSeek · Google Scholar · J-Gate · JournalTOCs · Medline · Meta (formerly Scisearch) · Naviga (Softweco) · Primo Central (ExLibris) · ProQuest (relevant databases) · PsycINFO · PubMed · ReadCube · ResearchGate · SCImago (SJR) · Sherpa/RoMEO · Summon (Serials Solutions/ProQuest) · TDOne (TDNet) · Thomson Reuters: BIOSIS Previews; Journal Citation Reports/Science Edition; Science Citation Index Expanded · Ulrich's Periodicals Directory/ulrichsweb · WorldCat (OCLC)

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 of 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 0334-1763 · e-ISSN 1607-8470

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

RESPONSIBLE EDITORS Dr. Joseph P. Huston, Center for Behavioral Neuroscience, University of Düsseldorf, Universitätsstraße 1, 40225 Düsseldorf, Germany, Email: jph@uni.duesseldorf.de

JOURNAL MANAGER Dr. Torsten Krüger, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany, Tel.: +49 (0)30 260 05 – 176, Fax: +49 (0)30 260 05 – 298, Email: rev.neurosci.editorial@degruyter.com

RESPONSIBLE FOR ADVERTISEMENTS Claudia Neumann, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany. Tel.: +49 (0)30.260 05-226, Fax: +49 (0) 30.260 05-264 , Email: anzeigen@degruyter.com

© 2017 Walter de Gruyter GmbH, Berlin/Boston

TYPESETTING Compuscript Ltd., Shannon, Ireland

PRINTING Franz X. Stückle Druck und Verlag e.K., Ettenheim
Printed in Germany

COVER ILLUSTRATION Hemera / Thinkstock



Contents

Stanislav Kozlov, Alexei Afonin, Igor Evsyukov and Andrei Bondarenko

Alzheimer's disease: as it was in the beginning — 825

Tomasz Grzegorski and Jacek Losy

Cognitive impairment in multiple sclerosis – a review of current knowledge and recent research — 845

Yuan Zhang, Xu Chen, Yanfang Zhao, Murugavel Ponnusamy and Ying Liu

The role of ubiquitin proteasomal system and autophagy-lysosome pathway in Alzheimer's disease — 861

Katherine L. Perkins, Amaia M. Arranz, Yu Yamaguchi and Sabina Hrabetova

Brain extracellular space, hyaluronan, and the prevention of epileptic seizures — 869

Sotirios Apostolakis and Anna-Maria Kypraiou

Iron in neurodegenerative disorders: being in the wrong place at the wrong time? — 893

Alexis Burns and Hojjat Adeli

Wearable technology for patients with brain and spinal cord injuries — 913