

**Planta Medica**

Volume 90

Planta Medica is published in 15 issues per year.

ISSN (Print): 0032-0943

eISSN: 1439-0221

**Editors-in-Chief**

Prof. Dr. Robert Fürst

Pharmazeutische Biologie

Department Pharmazie

Ludwig-Maximilians-Universität München

Butenandtstr. 5–13

81377 München

Prof. Dr. Oliver Kayser

Emil-Figge-Str. 66

44227 Dortmund

**Editorial Office**

René Pretôt

School of Life Sciences FHNW

Institute for Chemistry and Bioanalytics

Büro 06.W.26

Hofackerstrasse 30, 4132 Muttenz, Switzerland

phone +41 (0) 6 12 28 56 04

rene.pretot@fhnw.ch

The editors are not responsible for the advertisements and supplements contained in the journal.

**Publishers**

Georg Thieme Verlag KG

Rüdigerstraße 14, 70469 Stuttgart or

P.O. Box 301120, 70451 Stuttgart

phone +49-711-8931-0, fax +49-711-8931-298

www.thieme.de/fz/plantamedica

Web-App: www.thieme.de/eref-app

Editorial staff at the Georg Thieme Verlag is available via:

planta.impressum@thieme.de

V. i. S. d. P.: Martin Spencker,

Rüdigerstraße 14, 70469 Stuttgart

**Umsatzsteuer-ID**

DE147638607

**Handelsregister**

Sitz und Handelsregister Stuttgart, Amtsgericht Stuttgart HRA 3499, Verkehrsnummer 16427

**Advertising**

Thieme Media

Pharmedia Anzeigen- und Verlagsservice GmbH

Ulrike Bradler, Rüdigerstraße 14, 70469 Stuttgart or

P.O. Box 300880, 70448 Stuttgart

phone +49-711-8931-466

e-mail: Ulrike.bradler@thieme-media.de

**Production management**

phone +49-711-8931-330-637, fax +49-711-8931-393

e-mail: Lena.Hermann@thieme.de

**Subscription information**

Subscribers are asked to inform the publisher immediately in case of address changes in order to ensure correct delivery of the journal.

phone +49-711-8931-321, fax: +49-711-8931-422

customerservice@thieme.com

The scientific text of this journal is available online through Thieme-connect, <http://www.thieme-connect.de>. Access to Thieme-connect is free of charge for personal subscribers.

All subscription orders are entered for the calendar year.

The rate of subscription is invoiced in advance at the end of the year for the following year and becomes due for payment for the full calendar year. Subscriptions can be started anytime. Subscriptions are automatically extended each year unless notice of cancellation is received

from the subscriber prior to September 30 of each year (applies to Germany, Switzerland, Austria only).

Planta Medica is available as an institutional subscription only. For information about institutional rates, please contact [eproducts@thieme.com](mailto:eproducts@thieme.com).

For information concerning licenses and prices for institutional access, please contact:

**For customers in Germany, Austria, Switzerland**

Thieme Gruppe, Institutional Sales, Rüdigerstraße 14

70469 Stuttgart, Deutschland

phone: +49 711-8931-407, fax: +49 711-8931-794

e-mail: [esales@thieme.de](mailto:esales@thieme.de)

**For customers in Europe (excluding Germany, Austria and Switzerland), Africa, Asia (excluding South Asia), Australia**

Thieme Gruppe, Institutional Sales, Rüdigerstraße 14

70469 Stuttgart, Germany

phone: +49 711-8931-407, fax: +49 711-8931-794

e-mail: [esales\\_row@thieme.de](mailto:esales_row@thieme.de)

**For customers in the US, Canada, Mexico, Central and South America**

Thieme Medical Publishers, Inc., Institutional Sales

333 Seventh Avenue, New York, NY 10001

United States

phone: +1-800-782-3488 (Toll-free in US only)

phone: +1-212-760-0888, fax: +1-212-947-0108

e-mail: [esales\\_tny@thieme.com](mailto:esales_tny@thieme.com)

Airfreight and mailing in the USA by Sheridan Press, 450 Fame Avenue, Hanover, PA 17331. Periodicals postage paid at New York, NY and additional mailing offices. Postmaster: Send address changes to European Journal of Pediatric Surgery, Thieme Medical Publishers, Inc., 333 Seventh Avenue, New York, NY 10001.

**For Users in the USA**

Authorization of photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by Georg Thieme Verlag Stuttgart - New York for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service; [www.copyright.com](http://www.copyright.com). For reprint information in the USA, please contact: [journals@thieme.com](mailto:journals@thieme.com).

**Product names**

Product names which are registered trademarks may not have been specifically designated as such in every case. In case where a product has been referred to by its registered trademark it cannot be concluded that the name used is in the public domain. The same applies to labels, names or other signs.

**Manuscripts**

Manuscript submission exclusively via: <http://mc.manuscriptcentral.com/plamed>

For details regarding manuscript submission please refer to "Instructions for Authors": <https://www.thieme.de/de/planta-medica/140866.htm>.

In principle only papers will be accepted which have not been published previously, domestically or abroad. Furthermore, manuscripts may not be offered to other publications at the same time as they are under consideration for this journal.

The corresponding author will receive a PDF-file for private use.

Authors may choose to allow, for a fee, free general access to their papers online. For details, please contact [planta.impressum@thieme.de](mailto:planta.impressum@thieme.de).

**Illustrations**

Unfortunately, we cannot accept images already published in books, journals, or electronic products of other

publishers. The reason: It is almost impossible to obtain the necessary rights of use even with payment of licensing fees. Therefore, please do not pay any licensing fees (e.g. to "RightsLink"/Copyright Clearance Center). Standard license contracts from "Creative Commons" are unfortunately also insufficient for our purposes. Contact us with any questions regarding the use of images.

**Important note**

Medicine is an ever-changing science undergoing continual development. Research and clinical experience are continually expanding our knowledge, in particular our knowledge of appropriate treatment and drug therapy. Insofar as this journal mentions any dosage or application, readers may rest assured that the authors, editors and publishers have made reasonable effort to ensure that such references are in accordance with the state of knowledge at the time of production of the journal.

Nevertheless this does not involve, imply, or express any guarantee or responsibility on the part of the publishers in respect of any dosage instructions and forms of application stated in the journal. Every user is requested to examine carefully the manufacturers' leaflets accompanying each drug and to check, if necessary in consultation with a physician or specialist, whether the dosage schedules mentioned therein or the contraindications stated by the manufacturers differ from the statements made in the present journal. Such examination is particularly important with drugs that are either rarely used or have been newly released on the market. Every dosage schedule or every form of application used is entirely at the user's own risk and responsibility. The authors and publishers request every user to report to the publishers any discrepancies or inaccuracies noticed.

**Copyright & Ownership**

© 2024. Thieme. All rights reserved. The journal *Planta Medica* is owned by Thieme. Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

This journal, including all individual contributions and illustrations published therein, is legally protected by copyright for the duration of the copyright period. Any use, exploitation or commercialization outside the narrow limits set by copyright legislation, without the publisher's consent, is illegal and liable to criminal prosecution. This applies in particular to photocopy reproduction, copyright, cyclostyle, mimeographing or duplication of any kind, translating, preparation of microfilms, and electronic data processing and storage (CD-ROM, DVD, USB memory stick, databases, cloud-based service, ebook and other forms of electronic publishing) as well as making it available to the public (e.g., internet, intranet or other wired or wireless data networks), in particular by displaying on stationary or mobile visual display units, monitors, smart phones, tablets or other devices by download (e.g., e-pub, PDF, App) or retrieval in any other form.

**Data protection**

Where required by data protection laws, personal names and other data are edited and either removed or pseudonymized (alias names). This is always the case with patients, their relatives and friends, partly also with other persons, e.g. those involved in the treatment of patients.

**Appreciative and gender-inclusive language**

Thieme rejects any use of language which discriminates against people based on their origin, ethnicity, gender, religion, social affiliation, disability or sexual preference. Thieme addresses people of all gender identities equally. We encourage our authors to use gender-neutral or gender-equal expressions wherever the context allows.

**Printed in Germany**

Typesetting: Ziegler und Müller, text form files, Kirchentellinsfurt

Printer: Grafisches Centrum Cuno GmbH & Co. KG, Calbe (Saale)

Annual Subscription Rates 2024	Germany*	Europe*	Americas	Africa, Asia (excluding South Asia), Australia
Institutional E-Only Subscription (Single Site)	2539,00 €	2539,00 €	3482,00 \$	2539,00 €
Institutional Print + Online Subscription (Single Site)	2565,00 €	2565,00 €	3584,00 \$	2565,00 €

\* Incl. VAT in EU and Switzerland except Institutional E-Only Subscriptions. Single Issue 181,00 €