

The Journal of Nutritional Biochemistry (JNB) is an international journal devoted to advancements in nutrition science. Its major focus is on investigations about nutrients that overlap with the areas of biochemistry molecular biology, neurochemistry, toxicology, and pharmacology. For details concerning the preparation of manuscripts see Information for Authors, which is published in each issue of the journal.

JNB: *Journal of Nutritional Biochemistry* (ISSN: 0955-2863) is published monthly by Elsevier, 360 Park Avenue South, New York, NY 10010-1710. Business Office: 1600 John F. Kennedy Blvd., Suite 1800, Philadelphia, PA 19103-2899. Editorial Office: 360 Park Avenue South, New York, NY 10010-1710. Accounting and Circulation Offices: 6277 Sea Harbor Drive, Orlando, FL 32887-4800. Periodicals postage paid at New York, NY and additional mailing offices.

**POSTMASTER:** Send address changes to JNB: *Journal of Nutritional Biochemistry*, Elsevier Periodicals Customer Service, 6277 Sea Harbor Drive, Orlando, FL 32887-4800.

Subscription Rates (2006): Institutional price: US\$1,176.00; Personal price: US\$254.00; Prices include postage and are subject to change without notice. Claims for missing issues can be honored only up to three months for domestic addresses, six months for foreign addresses. Duplicate copies will not be sent to replace one undelivered through failure to notify Elsevier of change of address. Single copy and back volume information available upon request.

**Customer service (orders, claims, online, change of address):** Elsevier Periodicals Customer Service, 6277 Sea Harbor Drive, Orlando, FL 32887-4800. Tel: (800) 654-2452 (U.S. and Canada); (407) 345-4000 (outside U.S. and Canada). Fax: (800) 225-4030 (U.S. and Canada); (407) 363-9661 (outside U.S. and Canada). E-mail: [elspec@elsevier.com](mailto:elspec@elsevier.com).

Reprints: For copies of 100 or more of articles in this publication, please contact the Commercial Reprints Department, Elsevier Inc., 360 Park Avenue South, New York, NY 10010-1710. Tel: (212) 633-3813 Fax: (212) 633-3820 e-mail: [reprints@elsevier.com](mailto:reprints@elsevier.com).

© 2006 Elsevier Inc. All rights reserved.

This journal and the individual contributions contained in it are protected under copyright by Elsevier Inc. and the following terms and conditions apply to their use:

**Photocopying:** Single photocopies of single articles may be made for personal use as allowed by national copyright laws. Permission of the publisher and payment of a fee is required for all other photocopying, including multiple or systematic copying, copying for advertising or promotional purposes, resale, and all forms of document delivery. Special rates are available for educational institutions that wish to make photocopies for non-profit educational classroom use.

Permissions may be sought directly from Health Science Rights Department, Elsevier Inc., 1600 John F. Kennedy Blvd, Suite 1800, Philadelphia, PA 19103-2899, USA; Tel: (+1) 215-238-7869; Fax: (+1) 215-238-2239; e-mail: [healthpermission@elsevier.com](mailto:healthpermission@elsevier.com). You may also contact Rights & Permissions directly through Elsevier's home page (<http://www.elsevier.nl>), selecting first 'Customer Support', then 'General Information', then 'Permissions Query Form'.

In the USA, users may clear permissions and make payments through the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, USA; Tel: (978) 750 8400, Fax: (978) 750-4744, and in the UK through the Copyright Licensing Agency Rapid Clearance Service (CLARCS), 90 Tottenham Court Road, London W1P 0LP, UK; Tel: (+44) 171 436 5931; Fax: (+44) 171 436 3986. Other countries may have a local reprographic rights agency for payments.

**Derivative Works:** Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the publisher is required for resale or distribution outside the institution.

Permission of the publisher is required for all other derivative works, including compilations and translations.

**Electronic Storage or Usage:** Permission of the publisher is required to store or use electronically any material contained in this journal, including any article or part of an article. Contact the publisher at the address indicated.

Except as outlined above, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the publisher.

Address permissions requests to: Elsevier Inc. Rights & Permissions Department, at the mail, fax and e-mail addresses noted above.

Notice: No responsibility is assumed by the Publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Because of rapid advances in the medical sciences, in particular, independent verification of diagnoses and drug dosages should be made.

Although all advertising material is expected to conform to ethical (medical) standards, inclusion in this publication does not constitute a guarantee or endorsement of the quality or value of such product or of the claims made of it by its manufacturer.

∞ This paper meets the requirements of ANSI Standard Z39.48-1992 (Permanence of Paper).

# The Journal of Nutritional Biochemistry

Volume 17, Number 4, April 2006

## CONTENTS

### REVIEWS: CURRENT TOPICS

- 217** Plant sterols combined with exercise for the treatment of hypercholesterolemia: overview of independent and synergistic mechanisms of action  
*Christopher P.F. Marinangeli, Krista A. Varady, Peter J.H. Jones*

### RESEARCH ARTICLES

- 225** Lysine residues in N-terminal and C-terminal regions of human histone H2A are targets for biotinylation by biotinidase  
*Yap Ching Chew, Gabriela Camporeale, Nagarama Kothapalli, Gautam Sarath, Janos Zemleni*
- 234** Chronic administration of ethyl docosahexaenoate reduces gerbil brain eicosanoid productions following ischemia and reperfusion  
*Dehua Cao, Chen Zhou, Liping Sun, Renhao Xue, Jun Xu, Zhili Liu*
- 242** Effects of the type of dietary fat on acetylcholine-evoked amylase secretion and calcium mobilization in isolated rat pancreatic acinar cells  
*María D. Yago, Ricardo J. Díaz, María A. Martínez, Nama'a Audi, José A. Naranjo, Emilio Martínez-Victoria, Mariano Mañas*
- 250** Riboflavin deficiency causes protein and DNA damage in HepG2 cells, triggering arrest in G1 phase of the cell cycle  
*Karoline C. Manthey, Rocio Rodriguez-Melendez, Jia Tse Hoi, Janos Zemleni*
- 257** Absorption of isoflavones in humans: effects of food matrix and processing  
*Sonia de Pascual-Teresa, Jesper Hallund, Duncan Talbot, Joyce Schroot, Christine M. Williams, Susanne Bugel, Aedin Cassidy*
- 265** p38-MAPK and PKB/Akt, possible role players in red palm oil-induced protection of the isolated perfused rat heart?  
*Anna-Mart Engelbrecht, Johan Esterhuyse, Eugene F. du Toit, Amanda Lochner, Jacques van Rooyen*
- 272** Biotin supplementation decreases the expression of the *SERCA3* gene (*ATP2A3*) in Jurkat cells, thus, triggering unfolded protein response  
*Jacob B. Griffin, Rocio Rodriguez-Melendez, Leonard Dode, Frank Wuytack, Janos Zemleni*
- 282** Dietary ratio of n-6/n-3 PUFAs and docosahexaenoic acid: actions on bone mineral and serum biomarkers in ovariectomized rats  
*Bruce A. Watkins, Yong Li, Mark F. Seifert*
- 290** Calendar