



Editor-in-Chief

Peter Schreier (*Würzburg, Germany*)

Associate Editor

Hans-Ulrich Humpf (*Münster, Germany*)

Senior Editors

Michael C. Archer (*Toronto, Canada*)
 Fung-Lung Chung (*Valhalla, NY, USA*)
 Gerhard Eisenbrand (*Kaiserslautern, Germany*)
 Chi-Tang Ho (*New Brunswick, NJ, USA*)
 Michael E. Knowles (*Brussels, Belgium*)
 Alfred Merrill Jr. (*Atlanta, GA, USA*)
 Claus Schneider (*Nashville, TN, USA*)
 Robert Turesky (*Albany, NY, USA*)
 Stefan Vieths (*Langen, Germany*)

Editorial Board

Alan Crozier (*Glasgow, UK*)
 Lynette Ferguson (*Auckland, New Zealand*)
 Vincenzo Fogliano (*Napoli, Italy*)
 Thomas Hofmann (*Münster, Germany*)
 Helge Karch (*Münster, Germany*)
 Kikue Kubota (*Tokyo, Japan*)
 Ulrich Kulozik (*Freising, Germany*)
 Marc Le Maguer (*Guelph, Canada*)
 Doris Marko (*Kaiserslautern, Germany*)
 Annie Leszkowicz (*Auzeville-Tolosane, France*)
 Amos Nussinovitch (*Rehovot, Israel*)
 Kimmo Peltonen (*Helsinki, Finland*)
 Salka Elbol Rasmussen (*Soeborg, Denmark*)
 Ivonne Rietjens (*Wageningen, The Netherlands*)
 Kerstin Skog (*Lund, Sweden*)
 Veronika Somoza (*Garching, Germany*)
 Gerrit J. A. Speijers (*Bilthoven, The Netherlands*)
 Gary Takeoka (*Albany, CA, USA*)
 Hirotooshi Tamura (*Kagawa, Japan*)
 Jean-François Thibault (*Nantes, France*)
 A. G. J. Voragen (*Wageningen, The Netherlands*)
 Dong Xie (*Shanghai, China*)

Publisher

Wiley-VCH Verlag GmbH & Co. KGaA
 P.O. Box 10 11 61, D-69451 Weinheim (Germany)
 Tel.: +49-6201-606-0
 Fax: +49-6201-606-207



Discover papers in this journal online, ahead of the print
 issue, through Early View® at



Molecular Nutrition & Food Research

In continuation of *Nahrung/Food*

The primary research
journal focusing on the
molecular level

Printed on acid-free paper

© 2004 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim. Printed in the Federal Republic of Germany.

Editor-in-Chief: Professor Peter Schreier, Chair of Food Chemistry, University of Würzburg, Am Hubland, D-97074 Würzburg, Germany.

Publisher: WILEY-VCH Verlag GmbH & Co. KGaA, Boschstraße 12, D-69469 Weinheim, Germany.

Printed by betz-druck GmbH, D-64291 Darmstadt, Germany.

Correspondence concerning advertisements should be addressed to WILEY-VCH Verlag GmbH & Co. KGaA, Boschstraße 12, D-69469 Weinheim, Telephone 49-(0) 62 01 606-311, Telefax 49-(0) 62 01 606-202, E-mail: hkraus@wiley-vch.de.

Annual Subscription rates 2005

		Institutional*
Europe	Euro	1043.00 / 948.00
Switzerland	Sfr	1769.00 / 1608.00
All other areas	US \$	1307.00 / 1188.00

*print and electronic / print only or online only.

Postage and handling charges included. All Wiley-VCH prices are exclusive of VAT. Prices are subject to change.

Cancellation of subscriptions: The publisher must be notified not later than three months before the end of the calendar year.

Books for review: Uninvited copies not chosen for review will not be returned.

All rights reserved (including those of translation into other languages). No part of this journal may be reproduced in any form – by photoprint, microfilm, or any other means – nor transmitted or translated into a machine language without the permission in writing of the publisher. – Only single copies of contributions, or parts thereof, may be reproduced for personal use. – This journal was carefully produced in all its parts. Nevertheless, authors, editors and publisher do not warrant the information contained therein to be free of errors. Readers are advised to keep in mind that statements, data, illustrations, procedural details or other items may inadvertently be inaccurate.

Valid for users in the USA: The appearance of the code at the bottom of the first page of an article in this journal (serial) indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. The consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc., for copying beyond that permitted by Section 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. For copying from back volumes of this journal see Permissions to photocopy: Publisher's Fee List of the CCC.

Subscription Service

For customers in the US:

John Wiley & Sons, Inc.
Subscriptions Dept.
7th Floor, 111 River Street
Hoboken, NJ 07030 USA
Tel.: +1-800-825-7550 (US only)
or +1-201-748-6645
Fax: +1-201-748-5915
E-mail: subinfo@wiley.com
www.wiley.com

For Non-US customers:

John Wiley & Sons, Ltd.
Journals Administration Department
1 Oldlands Way, Bognor Regis
West Sussex
PO22 9SA England
Tel.: +44 (0) 1243-779777
Fax: +44 (0) 1243-843232
E-mail: cs-journals@wiley.co.uk
www.wiley-europe.com

For customers in Germany, Austria and Switzerland:

WILEY-VCH
Customer Service Department
P.O. Box 101161
D-69451 Weinheim, Germany
Tel.: +49 (0) 6201 606-400
Fax: +49 (0) 6201 606-184
E-mail: service@wiley-vch.de
www.wiley-vch.de

Home Page

www.mnf-journal.de

Instructions to Authors

These are published in all issues of the current volume. They are also available on the journal's home page.

Journal Management, Advertising

H.-J. Kraus (E-mail: hkraus@wiley-vch.de)

Marketing

V. Bluteau (E-mail: vbluteau@wiley-vch.de)

Production, Reprints

S. Mehren (E-mail: smehren@wiley-vch.de)

Copyright Permissions

C. Jerke (E-mail: cjerke@wiley-vch.de)

Language Polishing

Authors in Japan please note: Wiley-Japan can provide authors in Japan with a list of recommended services to check and improve the English of their papers before submission. Please contact the Wiley-Japan office by E-mail (editorial@wiley.co.jp) or Fax (+81-3-3556-9763) for more information.

Reprints/Issues

Authors will receive a free copy of the MNF issue containing their contribution. Further whole issues as well as reprints and high quality PDFs are available for authors at attractive rates.

Online Submission of Manuscripts

<http://mc.manuscriptcentral.com/mnf>

Molecular Nutrition & Food Research offers a web-based manuscript submission and peer review system. This service guarantees fast and safe submission of manuscripts and rapid assessment process. Use of this system is obligatory, conventional submission of manuscripts is not accepted.

Manuscripts must be prepared in accordance with the Instructions to Authors. These Instructions are to be found on the homepage of the journal at <http://www.mnf-journal.de> under the link "For Authors".

Any questions concerning the online submission program, please contact editorial support at mnf@wiley-vch.de

Author Index

- Ammon, Andrea 476
 Anklam, Elke 459
- Baljer, Georg 504
 Becker, Karsten 488
 Becker, Wolf-Meinhard 390, 449
 Bertino, Enrico 363
 Bielaszewska, Martina 514
 Bindslev-Jensen, Carsten 434, 441
 Bisson, Carolina 363
 Bohle, Barbara 424
 Boehme, Sybille 522
 Böhm, Sonja 282
 Borgen, Eva 292
- Capelletti, Claudia 459
 Conti, Amedeo 363
 Coscia, Alessandra 363
 Crespo, Jesús F. 347
- DeWitt, Åsa Marknell 370
- Ehling-Schulz, Monika 479
 Eisenbrand, Gerhard 282, 541
 Erb, Annette 326
 Ewers, Christa 504
- Fabris, Claudio 363
 Fiedler, Eva-Maria 380
 Frank, Oliver 270
 Frey, Andreas 449
 Fricker, Martina 479
 Friedrich, Alexander W. 514
 Friedrich, Karsten 488
- Geisen, Rolf 532
 Gruber, Patrick 449
 Guth, Sabine E. 282
- Hansen, Tine K. 434
 Ho, Chi-Tang 308
 Hofmann, Thomas 270, 449
 Humpf, Hans-Ulrich 239, 244, 255
- Jakobs, Sandra 318
 James, John M. 347
 Jestoi, Marika 299
- Karch, Alexander W. 488
 Karch, Helge 473
 Klare, Ingo 522
 Kouva, Merja 299
 Kraus, Michael 326
- Kuczius, Thorsten 514
- Labib, Samira 326
 Lauer, Iris 370
 Lepp, Ute 390
 Liang, Chia-Pei 308
 Lidholm, Jonas 370
- Malling, Hans-Jørgen 441
 Marko, Doris 318
 Mattsson, Lars 370
 Mittag, Diana 380
 Miura, Nobuaki 246
 Monde, Kenji 246
 Monti, Giovanna 363
 Morita, Akiko 434
 Mußler, Bernd H. 282
- Natale, Massimo 363
 Niggemann, Bodo 380
 Nishimura, Shin-Ichiro 246
- Ohtsuka, Tomoko 434
 Ottinger, Harald 270
- Pahlke, Gudrun 318
 Pastorello, Elide A. 356
 Pedersen, Mona H. 434
 Peltonen, Kimmo 299
 Peltran, Amalia 363
 Perono Garoffo, Lorenza 363
 Peters, Georg 488
 Poms, Roland E. 459
 Poulsen, Lars K. 413, 434, 441
 Prager, Rita 496
 Puppel, Nicole 318
- Reese, Gerald 370, 380
 Reese, Imke 380
 Reissbrodt, Rolf 522
 Richling, Elke 326
 Ritieni, Alberto 299
 Rizzo, Aldo 299
 Robino, Anna M. 356
 Rodriguez, Julia 347
- Sander, Ingrid 380
 Scherer, Siegfried 479
 Schreier, Peter 239
 Schüffner, Claudia 504
 Seguro, Katsuya 434
 Simon, James E. 308

Skamstrup Hansen, Kirsten	441	Veijalainen, Pirjo	299
Skog, Kerstin	292	Vieths, Stefan	343, 380
Soldo, Tomislav	270	von Eiff, Christof	488
Somma, Maria Carmela	299	Voss, Kenneth A.	255
Søndergaard Khinchi, Marianne	441		
Stahl Skov, Per	441	Wang, Mingfu	308
Sten, Eva	434	Weiß, Reinhard	504
Streckel, Wiebke	496	Werner, Guido	522
Suhr, Martin	390, 449	Wickert, Thomas	326
		Wicklein, Daniel	390
Taniguchi, Tohru	246	Wieler, Lothar H.	504
Tietze, Erhard	496	Witte, Wolfgang	522
Tjaden, Zeina	318	Wolff, Anne-Christin	496
		Worm, Margitta	380
Tschäpe, Helmut	496		
Valentini, Sabina	363	Zhang, Wenlan	514

Keyword Index

- Alapyridaine 270
 Allergen 370, 459
 Allergenicity 434
 Allergen identification 363
 Allergy 434
 Androgens 282
 Anthocyanidins 318
 Antiandrogens 282
 Anti Ara h 2 antibodies 449
 Antibiotic-resistance 522
 Antioxidant 308
 Apple allergy 441
 Ara h 2 449
 Ara h 6 390

Bacillus cereus 479
 Biomolecules 246
 Birch pollen 441

 Carbohydrates 246
 1-(1-Carboxyethyl)-5-hydroxy-2-(hydroxymethyl)-
 pyridinium inner salt 270
 Cereulide 479
 Citral degradation 308
 Corn 255
 Cow's milk allergens 363
 Crustaceae 370
 Cytokines 424
 Cytotoxicity 299

 Decision Tree 434
 Diarrhea 504
 Digestion 390
 Dihydrotestosterone 282
 Double-blind placebo-controlled 347

 Effector proteins 496
 Elimination diet food allergy 347
 Emetic toxin 479
 Enterobacteria 522
 Enterococci 522
 Enterotoxin 488
 Epidermal growth factor receptor 318
 Epitope mapping 449
Escherichia coli 504, 514

 FAO/WHO 434
 Fast food 292
 Flavonoid metabolism 326
 Food allergy 356, 363, 370, 390, 413, 424, 441
 Food challenge 347
 Food mutagens 292

 Food-poisoning 479
 Foodstuff 522
 Fumonisin mycotoxins 255

 Gene expression 532
 Genetically modified organisms 413
 Grain-based products 299

 Hamburgers 292
 Heterocyclic amines 292

 Immunoblotting 363
 Immunoglobulin E 347, 380
 Immunotherapy 441

 Lipid transfer protein 356
 Liquid chromatography–electrospray ionization–
 tandem mass spectrometry 255

 Maillard reaction 270
 Melting curve analysis 514
 Mitogen-activated protein kinase 318
 Multiple-antigenic peptide 449
 Mycotoxins 299

 Ochratoxin A 532
 Off-odor 308
 Oral allergy syndrome 356
 Oral challenges 347
 Organic agriculture 299

 Panallergen 356
 Peanut 459
 Peanut allergens 390
 Peanut allergy 449
Penicillium nordicum 532
 Phenolic compounds 308
 Phosphodiesterase 318
 Pig caecum model 326
 Polyketide synthase 532
 Polymerase chain reaction-DNA enzyme immuno-
 assay 488
 Polyphenols 326
 Protein extraction 459
 Proteomics 363
 Pyrogenic toxin superantigen 488

 Radioallergosorbent test 413
 Real-time fluorescence polymerase chain reaction .. 514
 Reporter gene systems 282
 Review 255, 347, 356, 479
 Rosaceae fruits 356

<i>Salmonella enterica</i>	496	Transglutaminase	434
Secondary structure	246	Tropomyosin	370
Serogroup O78	504	Umami	270
Shiga toxin	514	Vibrational circular dichroism	246
Shrimp	370	Virulence	496
<i>Staphylococcus aureus</i>	488	Wheat allergy	380
Taste enhancer	270	Wheat proteins	380
Thermal food processing	255	Zooantroponosis	504
Thermostability	390		
Th1/Th2	424		
T lymphocytes	424		