

in vivo

International Journal of Experimental and Clinical Pathophysiology and Drug Research

Volume 26, Number 3, May-June 2012

Contents

Experimental Studies

- Ionizing Irradiation Protection and Mitigation of Murine Cells by Carbamazepine is p53 and Autophagy Independent. H. KIM, M.E. BERNARD, A. FARKAS, J. GOFF, R. KALASH, F. HOUGHTON, D. SHIELDS, D. FRANICOLA, T. DIXON, X. ZHANG, M. EPPERLY, H. WANG, M.C. COBANOGLU, J.S. GREENBERGER (*Pittsburgh; Erie, PA, USA*)..... 341
- Effects of Culture Supernatant from *Lactobacillus pentosus* Strain SPT84 on Autonomic Nerve Activity in Rats. Y. BEPPU, T. IZUMO, Y. HORII, J. SHEN, Y. FUJISAKI, T. NAKASHIMA, N. TSURUOKA, K. NAGAI (*Osaka; Kyoto, Japan*)..... 355
- Human Chorionic Gonadotropin Inhibits N-Methyl-N-nitrosourea-induced Mammary Carcinoma Growth in Female Lewis Rats. T. YURI, Y.-C. LAI, K. YOSHIZAWA, A. TSUBURA (*Osaka, Japan*) 361
- In Vitro* Effects of Doxycycline on Inflammatory Cytokines and Gelatinases in Chronic Rhinosinusitis. J.U. SOMMER, J.D. SCHULTZ, J. GROSSBAIER, J. STERN-STRAETER, K. HÖRMANN, A. SAUTER (*Mannheim, Germany*) 369
- Canine Malignant Mammary Gland Neoplasms with Advanced Clinical Staging Treated with Carboplatin and Cyclooxygenase Inhibitors. G.E. LAVALLE, C.B. DE CAMPOS, A.C. BERTAGNOLLI, G.D. CASSALI (*Belo Horizonte, MG; Eldorado do Sul, RS, Brazil*) 375
- * Review: The Role of Nonsteroidal Antiinflammatory Drugs and Cyclooxygenase-2 Inhibitors on Experimental Colitis. A.P. RIBEIRO PAIOTTI, P. MARCHI, S.J. MISZPUTEN, C.T. FUJIYAMA OSHIMA, M. FRANCO, D.A. RIBEIRO (*São Paulo, SP, Brazil*)..... 381
- * Review: Oxidative Stress-mediated Biomolecular Damage and Inflammation in Tumorigenesis. F. SESTI, O.E. TSITSILONIS, A. KOTSINAS, I.P. TROUGAKOS (*Athens, Greece*)..... 395

Contents continued on the back cover



Editorial Board

- N. J. AGNANTIS, Ioannina, Greece
D. ANDERSON, Bradford, West Yorkshire, UK
J.P.A. BAAK, Stavanger, Norway
V. BARAK, Jerusalem, Israel
M. H. BARCELLOS-HOFF, New York, NY, USA
Y. BECKER, Jerusalem, Israel
K. BEIER, Basel, Switzerland
S. BEN-EFRAIM, Tel-Aviv, Israel
M. BERGQVIST, Uppsala, Sweden
R. BJERKVIG, Bergen, Norway
B. BODEY, Reseda, CA, USA
D. A. BUTTERFIELD, Lexington, KY, USA
M. CARAGLIA, Naples, Italy
P. CHANDRA, Frankfurt am Main, Germany
J.-G. CHUNG, Taichung, Taiwan, ROC
L. A. COHEN, Northampton, MA, USA
A. I. CONSTANTINOU, Nicosia, Cyprus
T. DALIANIS, Stockholm, Sweden
G. DELICONSTANTINOS, Athens, Greece
D. T. DENHARDT, Piscataway, NJ, USA
W. DEN OTTER, Amsterdam, The Netherlands
K. DE MEIRLEIR, Brussels, Belgium
L. DE RIDDER, Ghent, Belgium
E. P. DIAMANDIS, Toronto, ON, Canada
T. EFFERTH, Mainz, Germany
I. EMBER, Pécs, Hungary
W. ENGSTRÖM, Uppsala, Sweden
M. ESKELINEN, Kuopio, Finland
J. A. FERNANDEZ-POL, Chesterfield, MO, USA
S. FERRONE, Pittsburgh, PA, USA
G. FIORENTINI, Pesaro, Italy
P. B. FISHER, New York, NY, USA
I. FREITAS, Pavia, Italy
M. FRIEDRICH, Krefeld, Germany
R. E. FRIEDRICH, Hamburg, Germany
R. GANAPATHI, Cleveland, OH, USA
Z. GATALICA, Omaha, NE, USA
D. H. GILDEN, Aurora, CO, USA
G. GITTSCH, Freiburg, Germany
J. S. GREENBERGER, Pittsburgh, PA, USA
J. W. GREINER, Bethesda, MD, USA
D. S. GRIDLEY, Loma Linda, CA, USA
C. J. GRUBBS, Birmingham, AL, USA
F. GUADAGNI, Rome, Italy
F. HALBERG, Minneapolis, MN, USA
R. R. HARDY, Philadelphia, PA, USA
J. HAU, Copenhagen, Denmark
M. HAUER-JENSEN, Little Rock, AR, USA
G. H. HEPFNER, Detroit, MI, USA
K. HIBI, Yokohama, Japan
S. A. IMAM, Pasadena, CA, USA
C. G. IOANNIDES, Houston, TX, USA
J. R. IZBICKI, Hamburg, Germany
- K. S. JEONG, Daegu, S. Korea
I. KISS, Pécs, Hungary
M. KOUTSILIERIS, Athens, Greece
G. R. F. KRUEGER, Köln, Germany
B. KRUSLIN, Zagreb, Croatia
S. A. LAMPRECHT, New York, NY, USA
G. LANDBERG, Lund, Sweden
I. LELONG-REBEL, Illkirch, France
J. LEROY, Strasbourg, France
B. LÉYLAND-JONES, Atlanta, GA, USA
W. LICHTENEGGER, Berlin, Germany
P. MADARNAS, Sherbrooke, QC, Canada
H. MAEDA, Kumamoto, Japan
M. MAREEL, Ghent, Belgium
G. MARTORANA, Bologna, Italy
D. P. MIKHAILIDIS, London, UK
J. MOLNÁR, Szeged, Hungary
H. C. MORSE III, Rockville, MD, USA
N. MOTOHASHI, Tokyo, Japan
R. M. NAGLER, Haifa, Israel
R. NARAYANAN, Boca Raton, FL, USA
K. NILSSON, Uppsala, Sweden
K. R. NORUM, Oslo, Norway
R. F. NOVAK, Tampa, FL, USA
K. OGAWA, Tokyo, Japan
M. PAGÉ, Laval, QC, Canada
P. PANTAZIS, Oklahoma City, OK, USA
M.-F. POUPON, Paris, France
F. M. ROBERTSON, Houston, TX, USA
D. RUBELLO, Rovigo, Italy
C. A. RUBIO, Stockholm, Sweden
G. R. RUTTEMAN, Utrecht, The Netherlands
H. SAKAGAMI, Saitama, Japan
G. SAVA, Trieste, Italy
D. SCHIFFER, Vercelli, Italy
L. D. SHULTZ, Bar Harbor, ME, USA
G. SICA, Rome, Italy
R. M. SNAPKA, Columbus, OH, USA
G.-I. SOMA, Tokushima, Japan
T. A. SPRINGER, Boston, MA, USA
T. TAKAHASHI, Nagoya, Japan
N. TANAKA, Chiba, Japan
K. D. TEW, Charleston, SC, USA
G. C. TORRE, Finale Ligure (SV), Italy
B. TRIBUKAIT, Stockholm, Sweden
J. VADGAMA, Los Angeles, CA, USA
J.K. VISHWANATHA, Fort Worth, TX, USA
N. WATANABE, Sapporo, Japan
W. WEBER, Basel, Switzerland
L. M. WEINER, Washington, DC, USA
J. A. WERNER, Marburg, Germany
S. YLÄ-HERTTUALA, Kuopio, Finland
H. YOSHIDA, Kagoshima, Japan

J. G. DELINASSIOS, Athens, Greece
Managing Editor and Executive Publisher

Editorial Office: journals@iiar-anticancer.org

Managing Editor: editor@iiar-anticancer.org

For more information about IN VIVO, IJAR and the International Conferences of Anticancer Research, please visit the IJAR website: www.iiar-anticancer.org

Editorial Office: International Institute of Anticancer Research, 1st km Kapandritiou-Kalamou Rd., Kapandriti, P.O. Box 22, Attiki 19014, Greece. Tel / Fax: +30-22950-53389. e-mail: journals@iiar-anticancer.org

General Policy: IN VIVO is a multidisciplinary journal designed to bring together original high quality works and reviews on experimental and clinical biomedical research within the framework of comparative physiology and pathology. The special focus of the journal is the publication of works on: (a) experimental development and application of new diagnostic procedures; (b) pharmacological and toxicological evaluation of new drugs and drug combinations; (c) development and characterization of models for biomedical research. IN VIVO supports: (a) the activities of the INTERNATIONAL INSTITUTE OF ANTICANCER RESEARCH (IIAR; Kapandriti, Attiki, Greece) and (b) the organization of the International Conferences of Anticancer Research (www.iiar-anticancer.org).

Publication Data: IN VIVO is published bimonthly. Each annual volume comprises six issues. Annual Author and Subject Indexes are included in the sixth issue of each volume. IN VIVO Vol. 18 (2004) and onwards appears online with Stanford University HighWire Press.

Copyright: On publication of a manuscript in IN VIVO, which is a copyrighted publication, the legal ownership of all published parts of the paper passes from the Author(s) to the Journal.

Annual Subscription Rates 2012: Institutional, Euro 855.00 - online; Euro 875.00 - print; 890.00 - print & online; Personal, Euro 452.00 - online; Euro 472.00 - print; Euro 490.00 - print & online. Prices include rapid delivery and insurance. Previous volumes of IN VIVO (Vol. 1-25, 1987-2011) are available at 50% discount on the above rates.

Subscription Orders: Orders can be placed at agencies, bookstores, or directly with the Publisher. Cheques should be made payable to J.G. Delinassios, Athens, Greece.

Articles in IN VIVO are regularly indexed in bibliographic services, including Index Medicus, PubMed, MEDLINE, Biological Abstracts, Chemical Abstracts, BIOSIS, Chemical Abstracts, Excerpta Medica, Elsevier Bibliographic Database, EMBASE, Compendex, GEOBASE, EMBiology, Elsevier BIOBASE, FLUIDEX, World Textiles, Scopus, CANCER-LIT Database, University of Sheffield Biomedical Information Service (SUBIS), Current Clinical Cancer, AIDS Abstracts, Progress in Palliative Care, Update-Research Information Systems Inc., Inpharma-Reactions Datastar, BRS), Reference Update (I.S.I.), Research Alert, Science Citation Index Expanded, Biochemistry & Biophysics Citation (I.S.I.), BioBase, MedBase, Google Scholar, Investigational Drugs Database, VINI Abstracts Journal, PubsHub, SIIIC Data Bases.

The Editors and Publishers of IN VIVO accept no responsibility for the opinions expressed by the contributors or for the content of advertisements appearing therein.

Authorization to photocopy items for internal or personal use, or the internal or personal clients, is granted by IN VIVO, provided that the base fee of \$2.00 per copy, plus 0.40 per page is paid directly to the Copyright Clearance Center, 27 Congress Street, Salem, MA 01970, USA. For those organizations that have been granted a photocopy license by CCC, a separate system of payment has been arranged. The fee code for users of the Transactional Reporting Service is 0258-851 X 2010 \$2.00 + 0.40.

All correspondence (subscription orders, reprint orders, status of submitted manuscripts, change of address, general editorial matters, advertising rate requests) should be addressed to the Editorial Office. e-mail: journals@iiar-anticancer.org

Experimental Studies