

# ANTICANCER RESEARCH

## International Journal of Cancer Research and Treatment

ISSN: 0250-7005

Volume 33, Number 9, September 2013

### Contents

#### Reviews

- Ubiquitination and the Ubiquitin – Proteasome System in the Pathogenesis and Treatment of Squamous Head and Neck Carcinoma. I. A. VOUTSADAKIS (*Sault Ste Marie, Canada*)..... 3527
- Mitochondrial DNA Damage Is Uncommon in Cancer but Can Promote Aggressive Behaviour. B. D. MAYBURY (*Cardiff, U.K.* ) ..... 3543
- The Value of Pemetrexed for the Treatment of Malignant Pleural Mesothelioma: A Comprehensive Review. C. C.L.M. BOONS, M. W. VAN TULDER, J. A. BURGERS, J. J. BECKERINGH, C. WAGNER, J. G. HUGTENBURG (*Amsterdam; Amstelveen; Utrecht, the Netherlands*) ..... 3553

#### Experimental Studies

- APO010, A Synthetic Hexameric CD95 Ligand, Induces Death of Human Glioblastoma Stem-like Cells. G. EISELE, F. WOLPERT, G. DECREY, M. WELLER (*Zurich, Switzerland*) ..... 3563
- Targeting Ovarian Cancer and Chemoresistance Through Selective Inhibition of Sphingosine Kinase-2 with ABC294640. M. D. WHITE, L. CHAN, J. W. ANTOON, B. S. BECKMAN (*New Orleans, LA, U.S.A.*) ..... 3573
- Comparing the Effects of COX and Non-COX-inhibiting NSAIDs on Enhancement of Apoptosis and Inhibition of Aberrant Crypt Foci Formation in a Rat Colorectal Cancer Model. J. E. MARTIN, G. P. YOUNG, R. K. LE LEU, Y. HU (*Adelaide, Australia*) ..... 3581
- HOCl-dependent Singlet Oxygen and Hydroxyl Radical Generation Modulate and Induce Apoptosis of Malignant Cells. G. BAUER (*Freiburg, Germany*) ..... 3589

Contents continued on the back cover

# ANTICANCER RESEARCH

International Journal of Cancer Research and Treatment



ISSN (print): 0250-7005  
ISSN (online): 1791-7530

## Editorial Board

- B. B. AGGARWAL**, Houston, TX, USA  
**A. ARGIRIS**, San Antonio, TX, USA  
**J. P. ARMAND**, Toulouse, France  
**V. I. AVRAMIS**, Los Angeles, CA, USA  
**R. C. BAST**, Houston, TX, USA  
**G. BAUER**, Freiburg, Germany  
**E. E. BAULIEU**, Le Kremlin-Bicetre, France  
**Y. BECKER**, Jerusalem, Israel  
**E. J. BENZ, Jr.**, Boston, MA, USA  
**J. BERGH**, Stockholm, Sweden  
**D. D. BIGNER**, Durham, NC, USA  
**A. BÖCKING**, Düsseldorf, Germany  
**G. BONADONNA**, Milan, Italy  
**F. T. BOSMAN**, Lausanne, Switzerland  
**G. BROICH**, Monza, Italy  
**J. M. BROWN**, Stanford, CA, USA  
**Ø. S. BRULAND**, Oslo, Norway  
**M. M. BURGER**, Basel, Switzerland  
**M. CARBONE**, Honolulu, HI, USA  
**J. CARLSSON**, Uppsala, Sweden  
**A. F. CHAMBERS**, London, ON, Canada  
**P. CHANDRA**, Frankfurt am Main, Germany  
**L. CHENG**, Indianapolis, IN, USA  
**J.-G. CHUNG**, Taichung, Taiwan, ROC  
**E. DE CLERCQ**, Leuven, Belgium  
**W. DE LOECKER**, Leuven, Belgium  
**W. DEN OTTER**, Amsterdam, The Netherlands  
**E. P. DIAMANDIS**, Toronto, ON, Canada  
**G. TH. DIAMANDOPOULOS**, Boston, MA, USA  
**W. EBERT**, Heidelberg, Germany  
**D. W. FELSHER**, Stanford, CA, USA  
**J. A. FERNANDEZ-POL**, Chesterfield, MO, USA  
**I. J. FIDLER**, Houston, TX, USA  
**A. P. FIELDS**, Jacksonville, FL, USA  
**G. GABBIANI**, Geneva, Switzerland  
**R. GANAPATHI**, Charlotte, NC, USA  
**A. F. GAZDAR**, Dallas, TX, USA  
**J. H. GESCHWIND**, Baltimore, MD, USA  
**A. GIORDANO**, Philadelphia, PA, USA  
**G. GITSCH**, Freiburg, Germany  
**R. H. GOLDFARB**, Saranac Lake, NY, USA  
**J. W. GORROD**, Colchester, Essex, UK  
**S. HAMMARSTRÖM**, Umeå, Sweden  
**I. HART**, London, UK  
**I. HELLSTRÖM**, Seattle, WA, USA  
**L. HELSON**, Quakertown, PA, USA  
**R. B. HERBERMAN**, Germantown, MD, USA  
**R. M. HOFFMAN**, San Diego, CA, USA  
**C. G. IOANNIDES**, Houston, TX, USA  
**K.-S. JEONG**, Daegu, South Korea  
**S. C. JHANWAR**, New York, NY, USA  
**J. V. JOHANNESSEN**, Oslo, Norway  
**B. KAINA**, Mainz, Germany  
**B. K. KEPPLER**, Vienna, Austria  
**D. G. KIEBACK**, Riesa (Dresden), Germany  
**R. KLAPDOR**, Hamburg, Germany  
**U. R. KLEEBERG**, Hamburg, Germany  
**P. KLEIHUES**, Zürich, Switzerland  
**E. KLEIN**, Stockholm, Sweden  
**S. VON KLEIST**, Freiburg, Germany  
**S. D. KOTTARIDIS**, Athens, Greece  
**G. R. F. KRUEGER**, Köln, Germany  
**D. W. KUFFE**, Boston, MA, USA  
**Pat M. KUMAR**, Manchester, UK  
**Shant KUMAR**, Manchester, UK  
**M. KUROKI**, Fukuoka, Japan  
**O. D. LAERUM**, Bergen, Norway  
**F. J. LEJEUNE**, Lausanne, Switzerland  
**L. F. LIU**, Piscataway, NJ, USA  
**D. M. LOPEZ**, Miami, FL, USA  
**E. LUNDGREN**, Umeå, Sweden  
**H. T. LYNCH**, Omaha, NE, USA  
**J. MAHER**, London, UK  
**J. MARESCAUX**, Strasbourg, France  
**J. MARK**, Skövde, Sweden  
**J. F. MARSHALL**, London, UK  
**D. MEDINA**, Houston, TX, USA  
**S. MITRA**, Houston, TX, USA  
**M. MUELLER**, Heidelberg, Germany  
**F. M. MUGLIA**, New York, NY, USA  
**M. J. MURPHY, Jr.**, Dayton, OH, USA  
**R. NARAYANAN**, Boca Raton, FL, USA  
**K. NILSSON**, Uppsala, Sweden  
**J. F. NOVAK**, Lewisburg, PA, USA  
**S. PATHAK**, Houston, TX, USA  
**S. PESTKA**, Piscataway, NJ, USA  
**G. J. PILKINGTON**, Portsmouth, UK  
**C. D. PLATSOUKAS**, Norfolk, VA, USA  
**F. PODO**, Rome, Italy  
**A. POLLIAK**, Jerusalem, Israel  
**M. F. RAJEWSKY**, Essen, Germany  
**G. REBEL**, Strasbourg, France  
**M. RIGAUD**, Limoges, France  
**U. RINGBORG**, Stockholm, Sweden  
**M. ROSELLI**, Rome, Italy  
**A. SCHAUER**, Göttingen, Germany  
**M. SCHNEIDER**, Wuppertal, Germany  
**A. SETH**, Toronto, ON, Canada  
**G. V. SHERBET**, Newcastle-upon-Tyne, UK  
**G.-I. SOMA**, Tokushima, Japan  
**G. S. STEIN**, Burlington, VT, USA  
**T. STIGBRAND**, Umeå, Sweden  
**D. TARIN**, La Jolla, CA, USA  
**T. M. THEOPHANIDES**, Athens, Greece  
**B. TOTH**, Omaha, NE, USA  
**P. M. UELAND**, Bergen, Norway  
**P. T. VIHKO**, Oulu, Finland  
**R. G. VILE**, Rochester, MN, USA  
**M. VOLM**, Heidelberg, Germany  
**G. WEBER**, Indianapolis, IN, USA  
**B. WESTERMARK**, Uppsala, Sweden  
**Y. YEN**, Duarte, CA, USA  
**B. ZUMOFF**, New York, NY, USA

**J. G. DELINASIOS**, Athens, Greece  
Managing Editor and Executive Publisher

**S. AZOUDIS**, Surrey, BC, Canada  
Assistant Managing Editor

**E. ILIADIS**, Athens, Greece  
Production Editor

**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-mails: Editorial Office: journals@iia-anticancer.org  
Managing Editor: editor@iia-anticancer.org

ANTICANCER RESEARCH supports: (a) the establishment and the activities of the INTERNATIONAL INSTITUTE OF ANTICANCER RESEARCH (IIAR; Kapandriti, Attiki, Greece); and (b) the organization of the International Conferences of Anticancer Research.

For more information about ANTICANCER RESEARCH, IIAR and the Conferences, please visit the IIAR website: [www.iia-anticancer.org](http://www.iia-anticancer.org)

**Publication Data:** ANTICANCER RESEARCH (AR) is published monthly from January 2009. Each annual volume comprises 12 issues. Annual Author and Subject Indices are included in the last issue of each volume. ANTICANCER RESEARCH Vol. 24 (2004) and onwards appears online with Stanford University HighWire Press from April 2009.

**Copyright:** On publication of a manuscript in AR, 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 2013 per volume:** Institutional subscription Euro 1,650.00 - print or online. Personal subscription Euro 780.00 - print or online. Prices include rapid delivery and insurance. The complete previous volumes of Anticancer Research (Vol. 1-32, 1981-2012) 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. Delinasios, Executive Publisher of Anticancer Research, Athens, Greece, and should be sent to the Editorial Office.

**Advertising:** All correspondence and rate requests should be addressed to the Editorial Office.

**Book Reviews:** Recently published books and journals should be sent to the Editorial Office. Reviews will be published within 2-4 months.

Articles in ANTICANCER RESEARCH are regularly indexed in all bibliographic services, including Current Contents (Life Sciences), Science Citation Index, Index Medicus, Biological Abstracts, PubMed, Chemical Abstracts, Excerpta Medica, University of Sheffield Biomedical Information Service, Current Clinical Cancer, AIDS Abstracts, Elsevier Bibliographic Database, EMBASE, Compendex, GEOBASE, EMBiology, Elsevier BIOBASE, FLUIDEX, World Textiles, Scopus, Progress in Palliative Care, Cambridge Scientific Abstracts, Cancergram (International Cancer Research Data Bank), MEDLINE, Reference Update - RIS Inc., PASCAL-CNRS, Inpharma-Reactions (Datastar, BRS), CABS, Immunology Abstracts, Telegen Abstracts, Genetics Abstracts, Nutrition Research Newsletter, Dairy Science Abstracts, Current Titles in Dentistry, Inpharma Weekly, BioBase, MedBase, CAB Abstracts/Global Health Databases, Investigational Drugs Database, VINITI Abstracts Journal, Leeds Medical Information, PubsHub, Sociedad Iberoamericana de Información Científica (SIIC) Data Bases.

Authorization to photocopy items for internal or personal use, or the internal or personal clients, is granted by ANTICANCER RESEARCH, 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 0250-7005/2013 \$2.00 +0.40.

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

Copyright© 2013, International Institute of Anticancer Research  
(Dr. John G. Delinasios), All rights reserved.  
D.T.P. BY IIAR  
PRINTED BY ENTYP0, ATHENS, GREECE  
PRINTED ON ACID-FREE PAPER

## Reviews