



# CANCER GENOMICS & PROTEOMICS

Online ISSN: 1790-6245

## Editor-in-Chief:

**ARUN SETH**, *Sunnybrook Research Institute, University of Toronto, Toronto, ON, Canada*

## Managing Editor:

**J.G. DELINASIOS**, *International Institute of Anticancer Research (IIAR), Kapandriti, Attiki, Greece*

## Editorial Board

**L. A. Aaltonen**, *Helsinki, Finland*  
**R. Abagyan**, *La Jolla, CA, USA*  
**F. Ahmed**, *Greenville, NC, USA*  
**S. Antonarakis**, *Geneva, Switzerland*  
**D.-T. Bau**, *Taiwan, ROC*  
**M. R. Chance**, *Cleveland, OH, USA*  
**A. M. Chinnaiyan**, *Ann Arbor, MI, USA*  
**B. F. C. Clark**, *Aarhus, Denmark*  
**R. Clarke**, *Washington, DC, USA*  
**N. E. Davidson**, *Pittsburgh, PA, USA*  
**I. Dunham**, *Cambridge, UK*  
**T. Efferth**, *Mainz, Germany*  
**J. A. Fernandez-Pol**, *Chesterfield, MO, USA*  
**C.V. Forst**, *New York, NY, USA*  
**M. Fountoulakis**, *Basel, Switzerland*  
**D. S. Gerhard**, *Bethesda, MD, USA*  
**T.R. Golub**, *Cambridge, MA, USA*  
**J. Gordon**, *Philadelphia, PA, USA*  
**J. W. Gray**, *Portland, OR, USA*  
**B. B. Haab**, *Grand Rapids, MI, USA*  
**C.-H. Heldin**, *Uppsala, Sweden*  
**J. D. Hoheisel**, *Heidelberg, Germany*  
**R. P. Huang**, *Norcross, GA, USA*  
**T. H. M. Huang**, *San Antonio, TX, USA*  
**S. C. Jhanwar**, *New York, NY, USA*  
**V. C. Jordan**, *Washington, DC, USA*  
**J. Ju**, *Stony Brook, NY, USA*  
**A. Kallioniemi**, *Tampere, Finland*  
**O. P. Kallioniemi**, *Turku, Finland*  
**K. Khalili**, *Philadelphia, PA, USA*  
**D. G. Kieback**, *Riesa (Dresden), Germany*  
**S. D. Kottaridis**, *Athens, Greece*  
**B. Léylund-Jones**, *Sioux Falls, SD, USA*  
**P. Lichter**, *Heidelberg, Germany*  
**A. Lindblom**, *Stockholm, Sweden*  
**G. Lubec**, *Vienna, Austria*  
**J. Lyons-Weiler**, *Pittsburgh, PA, USA*  
**P. J. McCormick**, *Rensselaer, NY, USA*  
**J. D. Minna**, *Dallas, TX, USA*  
**F. Mitelman**, *Lund, Sweden*  
**P. Nelson**, *Seattle, WA, USA*  
**C. Nicot**, *Kansas City, KS, USA*  
**L. O'Driscoll**, *Dublin, Ireland*  
**I. Pastan**, *Bethesda, MD, USA*  
**C. D. Platsoucas**, *Norfolk, VA, USA*  
**J. Quackenbush**, *Boston, MA, USA*  
**J. S. Rader**, *Milwaukee, WI, USA*  
**A. Raouf**, *Winnipeg, MB, Canada*  
**G. Rasty**, *Toronto, ON, Canada*  
**G. Rechavi**, *Tel-Hashomer, Israel*  
**R. H. Reeves**, *Baltimore, MD, USA*  
**K. L. Reichelt**, *Oslo, Norway*  
**T. Ried**, *Bethesda, MD, USA*  
**G. Rimbach**, *Kiel, Germany*  
**K. D. Rodland**, *Richland, WA, USA*  
**Y. Sakaki**, *Toyohashi, Aichi, Japan*  
**C. Sansom**, *London, UK*  
**N. A. Saunders**, *Queensland, Australia*  
**B.W. Schäfer**, *Zurich, Switzerland*  
**J. Schneider**, *Madrid, Spain*  
**O. J. Semmes**, *Norfolk, VA, USA*  
**G. V. Sherbet**, *Newcastle-upon-Tyne, UK*  
**K. K. Singh**, *Birmingham, AL, USA*  
**S. Smith**, *Duarte, CA, USA*  
**J. C. Strefford**, *Southampton, UK*  
**J. M. Trent**, *Phoenix, AZ, USA*  
**G. Tsangaris**, *Athens, Greece*  
**L.-C. Tsui**, *Hong Kong, Hong Kong*  
**G. F. Vande Woude**, *Grand Rapids, MI, USA*  
**D. K. Watson**, *Charleston, SC, USA*  
**A. T. Yeung**, *Philadelphia, PA, USA*  
**H. Zhang**, *New Haven, CT, USA*

## Editorial Office: International Institute of Anticancer Research

1st km Kapandritiou-Kalamou Rd.,  
P.O. Box 22, Kapandriti, Attiki 19014, Greece.  
Tel: +30 22950 52945, Fax: +30 22950 53389  
E-mails:  
journals@iiar-anticancer.org (Editorial Office)  
editor@iiar-anticancer.org (Managing Editor)  
www.iiar-anticancer.org

http://cgp.iiarjournals.org

Front cover photograph: Figure 4B, page 100, this issue.

**Editorial Policy.** CANCER GENOMICS & PROTEOMICS (CGP) welcomes the submission of high quality original articles and reviews on all aspects of the application of genomic and proteomic technologies to experimental and clinical cancer research. The Journal's scientific spectrum includes: (a) molecular causes of carcinogenesis, cancer progression and metastasis; (b) structural and functional aspects of genes in the cancer cell; (c) advances in genomic and proteomic technologies applicable to cancer research; (d) anticancer drug design and drug development.

CGP will also accept abstracts and proceedings of scientific meetings for publication, following consideration and approval by the Editorial Board.

A main aim of CGP is to ensure the prompt and confidential review, and rapid publication of original works and reviews, generally within 1-2 months from acceptance.

For more information about CANCER GENOMICS & PROTEOMICS, IIAR and the Conferences, please visit the IIAR website: [www.iiar-anticancer.org](http://www.iiar-anticancer.org)

**Publication Data:** CANCER GENOMICS & PROTEOMICS (CGP) is published bimonthly online-only and open access by the International Institute of Anticancer Research. Each annual volume comprises of six issues. Annual Author and Subject Indexes are included in the sixth issue of each volume. CANCER GENOMICS & PROTEOMICS Vol. 1 (2004) and onwards appears online with Stanford University HighWire Press. All published articles are deposited in PubMed Central.

**Open Access Policy:** CGP appears bimonthly as an online-only open access journal through the Stanford University HighWire Press. Upon acceptance, Authors will be asked to pay an online publication fee of Euro 700.00 for articles up to 6 online pages (including figures and tables). Each additional excess page will be charged Euro 50.00. Color will not be charged. Authors from developing countries may apply for a 25% discount after the acceptance of their paper. CGP online will keep the volume and issue numbers, as well as page numbering.

**Copyright:** Authors retain copyright. The unrestricted *non-commercial* use, distribution and reproduction in any medium of CGP articles for academic reasons is allowed, provided that the original work is properly cited. The Authors grant the permanent right to the publisher to use any articles published in this journal without any restriction, including academic advertising purposes. PDF, XML and HTML files of all articles published in CGP are the property of the publisher.

Manuscripts and correspondence should be addressed to: Dr. John G. Delinasios, Managing Editor, Editorial Office, Cancer Genomics & Proteomics, 1st km Kapandritiou-Kalamou Rd., P.O. Box 22, Kapandriti, Attiki 19014, Greece. Tel: +30 22950 52945, Fax: +30 22950 53389, e-mail: [editor@iiar-anticancer.org](mailto:editor@iiar-anticancer.org)

Manuscripts from North America may be sent to the Editor-in-Chief, Prof. A. Seth, CGP, Laboratory of Molecular Pathology, Sunnybrook Research Institute, University of Toronto, 2075 Bayview Avenue, Room S112a, Toronto, ON, Canada M4N 3M5. Fax: 416 480 5737. E-mail: [genomics.proteomics@utoronto.ca](mailto:genomics.proteomics@utoronto.ca)

The Editors and Publishers of CANCER GENOMICS & PROTEOMICS 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

PHOTOCOMPOSITION BY IIAR

# CANCER GENOMICS & PROTEOMICS

Print ISSN (2004-2012): 1109-6535  
Online ISSN: 1790-6245

VOLUME 10, No 3  
2013

## Editorial Board

- A. Seth** Editor-in-Chief  
Laboratory of Molecular Pathology, Sunnybrook Research Institute, Sunnybrook Health Sciences Centre and University of Toronto, Toronto, Ontario, Canada
- J.G. Delinasios** Managing Editor and Executive Publisher  
International Institute of Anticancer Research, Athens, Greece
- L.A. Aaltonen** Department of Medical Genetics, University of Helsinki, Finland  
**R. Abagyan** The Scripps Research Institute, La Jolla, CA, USA  
**F. Ahmed** Department of Radiation Oncology, East Carolina University School of Medicine, Greenville, NC, USA  
**S. Antonarakis** Division of Medical Genetics, University of Geneva Medical School, Switzerland  
**D.-T. Bau** Terry Fox Cancer Research Lab, China Medical University Hospital, Taichung, Taiwan  
**M.R. Chance** Case Western Reserve University, Center for Proteomics and Bioinformatics, Cleveland, OH, USA  
**A.M. Chinnaiyan** Department of Pathology, University of Michigan Medical School, Ann Arbor, MI, USA  
**B.F.C. Clark** Department of Molecular Biology, University of Aarhus, Denmark  
**R. Clarke** Vincent T. Lombardi Cancer Center, Georgetown University School of Medicine, Washington, DC, USA  
**N. E. Davidson** University of Pittsburgh, Cancer Institute, Pittsburgh, PA, USA  
**I. Dunham** European Bioinformatics Institute, Wellcome Trust Genome Campus, Cambridge, UK  
**T. Efferth** Department of Pharmaceutical Biology Institute of Pharmacy and Biochemistry, University of Mainz, Germany  
**J.A. Fernandes-Pol** Metalloproteomics, LLC, Chesterfield, MO, USA  
**C.V. Forst** Department of Genetics and Genomic Sciences, Institute for Genomics and Multiscale Biology, Icahn School of Medicine at Mount Sinai, New York, NY, USA  
**M. Fountoulakis** F. Hoffman-La Roche Pharmaceutical Research, Basel, Switzerland  
**D.S. Gerhard** NIH / NCI, Office of Cancer Genomics, Bethesda, MD, USA  
**T.R. Golub** Pediatric Oncology, Dana-Farber Cancer Institute, Cambridge, MA, USA  
**J. Gordon** Department of Neuroscience, Center for Neurovirology, Temple University School of Medicine, Philadelphia, PA, USA  
**J.W. Gray** OHSU Knight Cancer Institute, Biomedical Engineering, Portland, OR, USA  
**B.B. Haab** Van Andel Research Institute, Grand Rapids, MI, USA  
**C.-H. Heldin** Ludwig Institute for Cancer Research, Uppsala, Sweden  
**J.D. Hoheisel** Deutsches Krebsforschungszentrum, Genome Research and Bioinformatics, Heidelberg, Germany  
**R.P. Huang** RayBiotech, Inc., Norcross, GA, USA  
**T.H.M. Huang** Department of Molecular Medicine/Institute of Biotechnology, University of Texas Health Science Center at San Antonio, San Antonio, TX, USA  
**S.C. Jhanwar** Departments of Pathology and Medicine, Memorial Sloan Kettering Cancer Center, New York, NY, USA  
**V.C. Jordan** Department of Oncology, Lombardi Comprehensive Cancer Center, Washington, DC, USA  
**J. Ju** Translational Research Laboratories, State University of New York, School of Medicine, Stony Brook, NY, USA  
**A. Kallioniemi** Laboratory of Cancer Genetics, Institute of Medical Technology, Tampere University Hospital, Finland  
**O.P. Kallioniemi** Medical Biotechnology Group, VTT Technical Research Centre of Finland, Turku, Finland  
**K. Khalili** College of Science and Technology, Center for Neurovirology and Cancer Biology, Temple University, Philadelphia, PA, USA  
**D.G. Kieback** Department of Obstetrics and Gynecology, Elblandklinikum, Riesa (Dresden), Germany  
**S.D. Kottaridis** Department of Virology, Hellenic Anticancer Institute, Athens, Greece  
**B. Léyland-Jones** Edith Sanford Breast Cancer Research, Sanford Health, Sioux Falls, SD, USA  
**P. Lichter** Deutsches Krebsforschungszentrum, Heidelberg, Germany  
**A. Lindblom** Karolinska Hospital, Department of Molecular Medicine and Surgery, Stockholm, Sweden  
**G. Lubec** Department of Pediatrics, University of Vienna, Austria  
**J. Lyons-Weiler** Department of Pathology, Center for Oncology Informatics, University of Pittsburgh, PA, USA  
**P.J. McCormick** The Center for Functional Genomics, Gen\*NY\*Sis Center for Excellence in Cancer Genomics, University of Albany, SUNY, Rensselaer, NY, USA  
**J.D. Minna** Hamon Center for Therapeutic Oncology, University of Texas, Southwestern Medical Center at Dallas, TX, USA  
**F. Mitelman** Department of Clinical Genetics, University Hospital, Lund, Sweden  
**P. Nelson** Fred Hutchinson Cancer Research Center, Seattle, WA, USA  
**C. Nicot** Department of Microbiology, Immunology and Molecular Genetics, University of Kansas Medical Center, Kansas City, KS, USA

<b>L. O'Driscoll</b>	School of Pharmacy and Pharmaceutical Sciences, Trinity College, Dublin, Ireland
<b>I. Pastan</b>	Laboratory of Molecular Biology, NCI, NIH, Bethesda, MD, USA
<b>C.D. Platsoucas</b>	College of Sciences, Old Dominion University, Norfolk, VA, USA
<b>J. Quackenbush</b>	Department of Biostatistics and Computational Biology, Dana-Farber Cancer Institute, Boston, MA, USA
<b>J.S. Rader</b>	Department of Obstetrics and Gynecology, Medical College of Wisconsin, Milwaukee, WI, USA
<b>A. Raouf</b>	Department of Immunology, Faculty of Medicine, University of Manitoba, Winnipeg, MB, Canada
<b>G. Rasty</b>	Department of Anatomic Pathology, University Health Network, University of Toronto, Toronto, ON, Canada
<b>G. Rechavi</b>	Pediatric Hemato-Oncology Department, Sheba Medical Center, Tel-Hashomer, Israel
<b>R.H. Reeves</b>	Department of Physiology, Johns Hopkins University, School of Medicine, Baltimore, MD, USA
<b>K.L. Reichelt</b>	Institute of Pediatric Research, The National Hospital, University of Oslo, Norway
<b>T. Ried</b>	Center for Cancer Research, Genetics Branch, NCI, NIH, Bethesda, MD, USA
<b>G. Rimbach</b>	Institute for Human Nutrition and Food Science, Christian-Albrechts-University, Kiel, Germany
<b>K.D. Rodland</b>	Biological Sciences Division, Pacific Northwest National Laboratory, Richland, WA, USA
<b>Y. Sakaki</b>	Toyohashi University of Technology, Toyohashi, Japan
<b>C. Sansom</b>	The School of Crystallography, Birbeck College, University of London, UK
<b>N.A. Saunders</b>	Centre for Immunology and Cancer Research, Princess Alexandra Hospital, University of Queensland, Australia
<b>B.W. Schäfer</b>	Department of Oncology, University Children's Hospital, Zurich, Switzerland
<b>J. Schneider</b>	Universidad Rey Juan Carlos, Facultad de Ciencias de la Salud, Alcorcón (Madrid), Spain
<b>O.J. Semmes</b>	Department of Microbiology and Molecular Cell Biology, Eastern Virginia Medical School, Norfolk, VA, USA
<b>G.V. Sherbet</b>	University of Newcastle, Merz Court, Department of Electrical and Electronic Engineering, Newcastle-upon-Tyne, UK
<b>K.K. Singh</b>	University of Alabama at Birmingham, Department of Genetics/Cancer Research, Birmingham, AL, USA
<b>S. Smith</b>	City of Hope Cancer Center, Department of Cell and Tumor Biology, Duarte, CA, USA
<b>J.C. Strefford</b>	Cancer Science Division, Southampton General Hospital, Southampton, UK
<b>J.M. Trent</b>	Tgen, Phoenix, AZ, USA
<b>G. Tsangaris</b>	Foundation of Biomedical Research of the Academy of Athens, Central Unit of Genomics-Proteomics, Athens, Greece
<b>L.-C. Tsui</b>	University of Hong Kong, Hong Kong
<b>G.F. Vande Woude</b>	Laboratory of Molecular Oncology, Van Andel Institute, Grand Rapids, MI, USA
<b>D.K. Watson</b>	Department of Pathology & Laboratory Medicine, The James E. Clyburn Research Center, Medical University of South Carolina, Charleston, SC, USA
<b>A.T. Yeung</b>	Fox Chase Cancer Center, Philadelphia, PA, USA
<b>H. Zhang</b>	Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, CT, USA

Articles in CANCER GENOMICS & PROTEOMICS are regularly indexed in the following bibliographic services: PUBMED, MEDLINE, CAS (Chemical Abstracts Service); BIOLOGICAL ABSTRACTS; EMBASE and BIOBASE; Compendex, GEOBASE; EMBiology; FLUIDEX; Scopus (Elsevier Bibliographic Databases); BIOSIS PREVIEWS; Science Citation Index Expanded (Web of Science); Google Scholar; LEEDS MEDICAL INFORMATION; CSA ILLUMINA (Cambridge Scientific Abstracts, including: Oncogenes & Growth Factors, Genetics, Medical & Pharmaceutical Biotechnology, Bioengineering); All-Russian Institute of Scientific and Technical Information – VINITI Abstracts Journal; PubsHub; Sociedad Iberoamericana de Información Científica (SIIC) Data Bases.

#### Editorial Office:

International Institute of Anticancer Research  
 1st km Kapandritiou-Kalamou Road,  
 P.O. Box 22, Kapandriti, Attiki, 19014, Greece.  
 Tel: +30 22950 52945, Fax: +30 22950 53389  
 e-mail: journals@iiar-anticancer.org. Web: www.iiar-anticancer.org; www.cgp.iiarjournals.org

Manuscripts and correspondence, should be addressed to: Dr. John G. Delinasios, Managing Editor, Editorial Office, Cancer Genomics & Proteomics, 1st km Kapandritiou-Kalamou Road, P.O. Box 22, Kapandriti, Attiki, 19014, Greece. Tel: +30 22950 52945, Fax: +30 22950 53389, e-mail: editor@iiar-anticancer.org

Manuscripts from North America may be sent to the Editor-in-Chief, Prof. A. Seth, CGP, Laboratory of Molecular Pathology, Sunnybrook Research Institute, 2075 Bayview Avenue, Room S112a, Toronto, ON, Canada M4N 3M5. Fax: +1 416 480 5737, e-mail: genomics.proteomics@utoronto.ca

# CANCER GENOMICS & PROTEOMICS

Volume 10, Number 3, May-June 2013

## Contents

Diagnostic MicroRNA Markers to Screen for Sporadic Human Colon Cancer in Stool: I. Proof of Principle. F.E. AHMED, N.C. AHMED, P.W. VOS, C. BONNERUP, J.N. ATKINS, M. CASEY, G.J. NUOVO, W. NAZIRI, J.E. WILEY, H. MOTA, R.R. ALLISON ( <i>Greenville, NC; Goldsboro, NC, USA</i> ) .....	93
Mutational Analysis of Gastrointestinal Stromal Tumors (GISTs): Procedural Approach for Diagnostic Purposes. R. PALMIROTTA, M.L. DE MARCHIS, G. LUDOVICI, B. LEONE, R. COVELLO, S. CONTI, L. COSTARELLI, D. DELLA-MORTE, P. FERRONI, M. ROSELLI, F. GUADAGNI ( <i>Rome, Italy; Miami, FL, USA</i> ) .....	115
Proteomic Analysis of Normal Murine Brain Parts. V.K. TARASLIA, A. KOUSKOUKIS, A.K. ANAGNOSTOPOULOS, D.J. STRAVOPODIS, L.H. MARGARITIS, G.TH. TSANGARIS ( <i>Athens, Greece</i> ) .....	125

## Instructions to Authors 2013

*General Policy.* CANCER GENOMICS & PROTEOMICS (CGP) welcomes the submission of high quality original articles and reviews on all aspects of the application of genomic and proteomic technologies to experimental and clinical cancer research. The journal's scientific spectrum includes: (a) molecular causes of carcinogenesis, cancer progression and metastasis; (b) structural and functional aspects of genes in the cancer cell; (c) advances in genomic and proteomic technologies applicable to cancer research; (d) rational anticancer drug design and drug development. CGP will also accept abstracts and proceedings of scientific meetings for publication, following consideration and approval by the Editorial Board.

The principal aim of CGP is to provide for the prompt online publication of original works of high quality, generally within 1-2 months of final acceptance. Manuscripts will be accepted on the understanding that they report original unpublished works that are not under consideration for publication by another journal (print or online), and that they will not be published again in the same form. All authors should sign a submission letter confirming the approval of their article contents. All material submitted to CGP will be subject to peer-review by two members of the Editorial Board and by one suitable outside referee. All manuscripts submitted to CGP are urgently treated with absolute confidence, with access restricted to the Editor-in-Chief, the Managing Editor, the journals' secretary, the reviewers and the printers. The Editors reserve the right to improve manuscripts in terms of grammar and style.

The Editors and Publishers of CGP accept no responsibility for the contents and opinions expressed by the contributors. Authors should warrantee due diligence in the creation and issuance of their work.

*Open Access Policy.* CGP appears bimonthly as an online-only open access journal through the Stanford University HighWire Press. Upon acceptance, Authors will be asked to pay an online publication fee of Euro 700.00 for articles up to 6 online pages (including figures and tables). Each additional excess page will be charged Euro 50.00. Color will not be charged. Authors from developing countries may apply for a 25% discount after the acceptance of their paper. CGP online will keep the volume and issue numbers, as well as page numbering.

*Copyright.* Authors retain copyright. The unrestricted *non-commercial* use, distribution and reproduction in any medium of CGP articles for academic reasons is allowed, provided that the original work is properly cited. The Authors grant the permanent right to the publisher to use any articles published in this journal without any restriction, including academic advertising purposes. PDF, XML and HTML files of all articles published in CGP are the property of the publisher.

*Format.* Two types of papers may be submitted: (i) full papers containing completed original work, and (ii) review articles concerning fields of recognizable progress. Papers should contain all the essential data in order to make the presentation clear. Papers should be written in clear, concise English. Spelling should follow that of the "Oxford English Dictionary".

*Manuscripts.* All manuscripts should be divided into the following sections: (a) *First page* including the title of the presented work [not exceeding fifteen (15) words], full names and full postal addresses of all Authors, name of the Author to whom proofs are to be sent, key words, an abbreviated running title and the date of submission. (Note: The order of the Authors is not necessarily indicative of their contribution to the work. Authors may note their individual contribution(s) in the appropriate section(s) of the presented work); (b) *Abstract* not exceeding 150 words, organized according to the following headings: Background - Materials and Methods or Patients and Methods - Results - Conclusion; (c) *Introduction*; (d) *Materials and Methods* or *Patients and Methods*; (e) *Results*; (f) *Discussion*; (g) *Acknowledgements* and (h) *References*. All pages must be numbered consecutively. Footnotes should be avoided. Review articles may follow a different style according to the subject matter and the Author's preference. Review articles should not exceed 35 pages (approximately 250 words per double-spaced page) including all tables, figures and references.

*Figures.* All figures (whether photographs or graphs) should be clear, high contrast, at the size they are to appear in the journal: 8.00 cm (3.15 in.) wide for a single column; 17.00 cm (6.70 in.) for a double column; maximum height: 20.00 cm (7.87 in.). Graphs must be submitted as photographs made from drawings and must not require any artwork, typesetting, or size modifications. Symbols, numbering and lettering should be clearly legible. The number and top of each figure must be indicated on the reverse side. Color will not be charged.

*Tables.* Each table should be submitted on a separate page, double-spaced. Tables should be numbered with Roman numerals and should include a short title.

*References.* Authors must assume responsibility for the accuracy of the references used. Citations for the reference section of submitted works should follow the standard form of "Index Medicus" and must be numbered consecutively in the order that they appear in the text. Examples: 1 Sumner AT: The nature of chromosome bands and their significance for cancer research. *Anticancer Res* 1: 205-216, 1981. 2. McGuire WL and Chamness GC: Studies on the oestrogen receptor in breast cancer. *In: Receptors for Reproductive Hormones.* O' Malley BW and Chamness GC (eds.). New York, Plenum Publ Corp, pp.133-136, 1973. In the text, references should be denoted as: (1), (2-5), (6, 7) *etc.*

*Nomenclature and Abbreviations.* Nomenclature should follow that given in "Chemical Abstracts", "Index Medicus", "Merck Index", "IUPAC –IUB", "Bergey's Manual of Determinative Bacteriology", The CBE Manual for Authors, Editors and Publishers (6th edition, 1994), and MIAME Standard for Microarray Data. Human gene symbols may be obtained from the HUGO Gene Nomenclature Committee (HGNC) (<http://www.gene.ucl.ac.uk/>). Approved mouse nomenclature may be obtained from <http://www.informatics.jax.org/>. Standard abbreviations are preferable. If a new abbreviation is used, it must be defined on first usage.

*Clinical Trials.* Authors of manuscripts describing clinical trials should provide the appropriate clinical trial number in the correct format in the text. For International Standard Randomised Controlled Trials (ISRCTN) Registry (a not-for-profit organization whose registry is administered by Current Controlled Trials Ltd.) the unique number must be provided in this format: ISRCTNXXXXXXXX (where XXXXXXXX represents the unique number, always prefixed by 'ISRCTN'). Please note that there is no space between the prefix 'ISRCTN' and the number. Example: ISRCTN47956475. For Clinicaltrials.gov registered trials, the unique number must be provided in this format: NCTXXXXXXXX (where XXXXXXXX represents the unique number, always prefixed by 'NCT'). Please note that there is no space between the prefix 'NCT' and the number. Example: NCT00001789.

*Ethical Policies and Standards.* CGP agrees with and follows the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals" established by the International Committee of Medical Journal Editors in 1978 and updated in October 2001 ([www.icmje.org](http://www.icmje.org)). Microarray data analysis should comply with the "Minimum Information About Microarray Experiments (MIAME) standard". Specific guidelines are provided at the "Microarray Gene Expression Data Society" (MGED) website. Presentation of genome sequences should follow the guidelines of the NHGRI Policy on Release of Human Genomic Sequence Data. Research involving human beings must adhere to the principles of the Declaration of Helsinki and Title 45, U.S. Code of Federal Regulations, Part 46, Protection of Human Subjects, effective December 13, 2001. Research involving animals must adhere to the Guiding Principles in the Care and Use of Animals approved by the Council of the American Physiological Society. The use of animals in biomedical research should be under the careful supervision of a person adequately trained in this field and the animals must be treated humanely at all times. Research involving the use of human foetuses, foetal tissue, embryos and embryonic cells should adhere to the U.S. Public Law 103-41, effective December 13, 2001.

*Submission of Manuscripts.* Manuscripts may be submitted online (<http://www.iar-anticancer.org/submission/login.php>), via e-mail ([journals@iar-anticancer.org](mailto:journals@iar-anticancer.org)), or by mail (3 complete copies plus, USB stick, DVD, CD or floppy disk) to the Editorial Office.

*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@iar-anticancer.org](mailto:journals@iar-anticancer.org). Managing Editor: [editor@iar-anticancer.org](mailto:editor@iar-anticancer.org)

*Galley Proofs.* Galley proofs will be sent by e-mail to the corresponding Author. Corrections of galley proofs should be limited to typographical errors.