

ISSN : 2088-0197

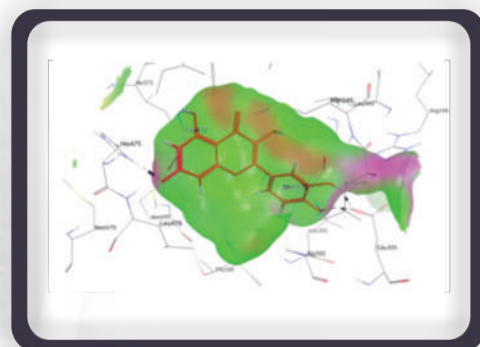
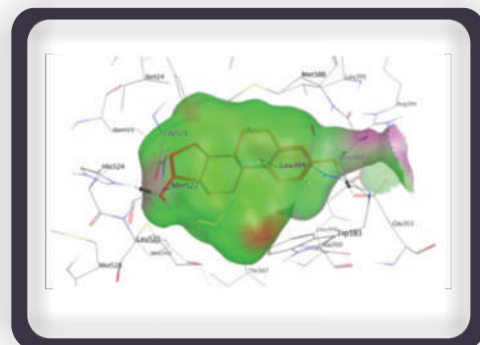


Faculty of Pharmacy



# Indonesian Journal of Cancer Chemoprevention

Vol. 3, No. 2, June 2012



The Official Journal of  
Indonesian Society for Cancer Chemoprevention

## Indonesian Journal of Cancer Chemoprevention

### Editor in Chief

Dr. Arry Yanuar, M.Si., Apt.

### Vice

Dr. Riris Istighfari Jenie, M.Si., Apt.

### Secretary

Dr. Rumiyati, M.Si., Apt.

Muthi Ikawati, M.Sc., Apt.

### Editors

Dr. Muhammad Da'i, M.Si., Apt.

Dr. rer. nat. Endang Lukitaningsih, M.Si., Apt.

Dr. Med. dr. Indwiani Astuti

### Board Reviewing Editors

Prof. Dr Edy Meiyanto, M.Si., Apt

*(Cancer Chemoprevention Research Center, Faculty of Pharmacy, Universitas Gadjah Mada, Yogyakarta)*

Prof. Dr. Umar Anggara Jenie, M.Sc., Apt.

*(Faculty of Pharmacy, Universitas Gadjah Mada, Yogyakarta)*

Prof. drg. Ferry Sandra, D.D.S., Ph.D., L.F.I.B.A.

*(Prodia Laboratory)*

Prof. Dr. Sugiyanto, SU., Apt.

*(Faculty of Pharmacy, Universitas Gadjah Mada, Yogyakarta)*

Prof. Dr. Sukardiman, SU., Apt.

*(Faculty of Pharmacy, Universitas Airlangga, Surabaya)*

Prof. Dr. Adek Zamrud Adnan, M.Sc., Apt.

*(Faculty of Pharmacy, Universitas Andalas, Padang)*

Prof. Dr. Sismindari, SU., Apt.

*(Faculty of Pharmacy, Universitas Gadjah Mada, Yogyakarta)*

Prof. Masashi Kawaichi, MD., Ph.D.

*(Laboratory of Gene Function in Animals, Graduate School of Biological Sciences, Nara Institute of Science and Technology, Nara, Japan)*

Prof. Hiroshi Itoh, Pharmacist, Ph.D.

*(Laboratory of Signal Transduction, Graduate School of Biological Science, Nara Institute of Science and Technology, Nara, Japan)*

Dr. Restu Syamsul Hadi, M.Kes.

*(Faculty of Medicine, YARSI University)*

Ken Tanaka, PhD.

*(Division of Pharmacognosy, Department of Medicinal Resources, Institute of Natural Medicine, University of Toyama, Japan)*

Prof. Wichai Cherdshewasart

*(Department of Biology, Faculty of Science at Chulalongkorn University, Bangkok, Thailand)*

### Business Manager

Yonika Arum Larasati, S.Farm.

Herwandhani Putri, S.Farm., Apt.

Nita Kristiani, S.Farm.

Anindyajati, S.Farm., Apt.

### Layouter and Setting

Nur Fauzah, S.ST.

### Editorial Office

Faculty of Pharmacy, Universitas Gadjah Mada Yogyakarta, Sekip Utara, Yogyakarta, Indonesia 55281

Telp. (+62-274) 6492662, Fax.(+62-274) 543120

Email : iscc2010@gmail.com

Bank : Bank BNI

Branch : Cabang UGM, Yogyakarta

Account No. : 0205640096

Account Name : Muthi Ikawati

### Published by

Indonesian Society for Cancer Chemoprevention (ISCC)

#### Cover Picture :

**"Visualization of Ligand Interaction between  
native ligand (estradiol) and ...**

(see Sugiyanto *et al.* pages 384-390 )

## INDONESIAN JOURNAL OF CANCER CHEMOPREVENTION ARTICLES

- Antiproliferative Effect of Ethanolic Extract *Eugenia uniflora* Lam. Leaves on T47D Cells  
(Nur Ismiyati, Dyaningtyas Dewi Pamungkas Putri, Siska Andrina Kusumastuti, and Rifki Febriansyah) 370 - 375
- Secang (*Caesalpinia sappan* L.) Heartwood Ethanolic Extract Shows Activity as Doxorubicin Co-chemotherapeutic Agent by Apoptosis Induction on T47D Breast Cancer Cells  
(Ika Nurziah, Dyaningtyas Dewi P.Putri., Erlina Rivanti, and Edy Meiyanto) 376 - 383
- Ethanolic Extract of Papaya (*Carica papaya*) Leaf Exhibits Estrogenic Effects *In Vivo* and *In Silico*  
(Raisatun Nisa Sugiyanto, Rahmi Khamsita, Marvin Lambertus, Rohmad Yudi Utomo and Ratna Asmah Susidarti) 384 - 390
- Ethanolic Extract of Mangosteen (*Garcinia mangostana*) Peel Inhibits T47D and Hela Cells Line Proliferation Via Nf- $\kappa$ B Pathway Inhibition  
(Erlina Rivanti, Annishfia Lailatur Rohmah, Herwandhani Putri, Prisnu Tirtanirmala, and Dyaningtyas Dewi Putri Pamungkas) 391 - 397
- The Number of Macrophages and Heterophils on Chick Embryo Chorioallantoic Membrane After *Gynura procumbens* (Lour) Merr Extract Treatment and bFGF Induction  
(Iwan Sahrial Hamid, Yuseni Kusuma P., Retno Bijanti, and E. and Bimo Aksono) 398 - 403
- Hesperidin Increases Cytotoxic Effect of 5-Fluorouracil on WiDr Cells  
(Yurista Gilang, Adam Hermawan, Aditya Fitriasari, and Riris Istighfari Jenie) 404 - 409

## Preface

Indonesian Journal of Cancer Chemoprevention (IJCC) is an Indonesian leading journal in cancer chemoprevention with international level. We publish all aspects of cancer chemoprevention, including experimental and clinical pharmacology, cancer detections and also applications of stem cell technology, immunology research, *in vitro* and *in silico* exploration on chemoprevention mechanisms, screening of natural (plants, marine natural products, etc.) and synthetic chemopreventive agents, cultivation of chemopreventive plants and development of herbal dosage forms for chemoprevention, and development of herbal cosmetics formulation. The current issue of IJCC contains six articles with various topics.

An interesting approach involving in cancer chemoprevention is to inhibit angiogenesis which involve extensively in cancer disease. Hamid *et al.* showed that extract of *Gynura procumbens*, which is published before as potent cytotoxic agent, also perform as anti-angiogenic agent. Another interesting pathway is estrogenic pathway regulating many physiological functions and also involved in chemoprevention. Sugiyanto *et al.* reported that extract of *Carica papaya* leaves showed estrogenic effect which is might be due to its flavonoid content. This research revealed the potency of *Carica papaya* leaves to be developed as phytestrogen supplement. Other articles in this issue found the potency of some natural products as cytotoxic agent, such as *Eugenia uniflora* Lam. (Ismiyati *et al.*) and *Caesalpinia sappan* L. (Nurzijah *et al.* and Rivanti *et al.*), while flavonoid hesperidin is potential to be developed as co-chemotherapeutic agent with 5-Fluorouracil (Gilang *et al.*).

We wish to thank the authors contributed in this issue. Editors encourage other researchers to explore more combination chemotherapy agent and molecular mechanisms, and published the articles in IJCC.

Sincerely,  
Dr. Arry Yanuar, M.Si., Apt.  
Editor-in-Chief, Indonesian Journal of Cancer Chemoprevention (IJCC)

## AIMS

*Indonesian Journal of Cancer Chemoprevention* is a tri-annual international journal devoted to the publication of articles on all aspects cancer chemoprevention including experimental and clinical pharmacology, especially concerning anti-oxidants, antiaging, anti-inflammation, anti-angiogenesis, and anti-carcinogenesis; cancer detections and also applications of stem cell technology; Immunology research, especially on immunomodulation; In vitro and in silico exploration on chemoprevention mechanisms; Screening of natural (plants, marine natural products, etc.) and synthetic chemopreventive agents; Cultivation of chemopreventive plants and development of herbal dosage forms for chemoprevention; and Development of herbal cosmetics formulation.

## INSTRUCTIONS TO THE AUTHORS

### Submission

Abstract was written in 1 space, one column, the manuscript 1.5 space with 1 column format, the overall amount of approximately 10 pages, with top and left of the format is 4 cm, right and bottom 3 cm from the edge of quarto paper (A4), must be clear for easy reading.

The manuscript must be written in clear and concise English and should comprise : (a) Title page; (b) Abstract; (c) Keywords; (d) Background; (e) Materials and Methods; (f) Results and Discussion; (g) Acknowledgement, if any; (h) References.

### The manuscript

#### Title page

Title must be concise and informative.

**First Author<sup>1</sup>\***, **Second Author, etc, (given name followed by surname), Times New Roman 12 pt, bold, double space, centered**

<sup>1</sup>Institutional affiliation(s), Times New Roman 12 pt, double space, centered

\*Corresponding author: contact of the corresponding author, affiliation, address (optional), phone number (optional), city, country, email address

#### Abstract and keywords

Write the abstract using single spacing. The abstract provides a clear and concise summary of the information in an article. The abstract should include a background for the work, a brief description of the methods, a summary of the results, and a conclusion. They are indicative only and will not be used for citation purposes. The abstract should be between 200 and 300 words.

**Key words:** provide a list of a most 5 key words for the abstract, separated by commas (,)

#### Introduction

The *introduction* should state the purpose of the paper. It should not review the subject extensively

#### Materials and Methods

*Materials and Methods* should be described in detail sufficient to enable the work to be repeated, and suppliers of materials and equipment given, if necessary.

#### Results and Discussion

*Results* should be presented in logical sequence, with tables and illustration as appropriate. *Discussion* should emphasize the implication of the findings, their limitations, and relevance to other studies. It should not be a recapitulation of the *results*. The end of the discussion should implied conclusion of whole research.

#### Acknowledgement

Fill this with the acknowledgement section of your manuscript if any

#### References

The Harvard System is used. References in the tax should be quoted in the following for single, two or more than two authors respectively: King (2000), Hanahan and Weinberg (1999), Choi et al. (2005). Multiple papers referred to together in the text should be given in chronological order.

The references should be listed alphabetically at the end of the paper. The journal titles should be abbreviated to conform to the style of Index Medicus. The layout should be as follows.

#### for journals

Chen, Y. Shen, S., and Lin, H., 2003, Rutinoside at C7 attenuates the apoptosis-inducing activity of flavonoids, *Biochem. Pharmacol.*, **66**(5), 1139–1150.

#### for books

Bruton, L. Lazo, J. S. and Parker, K. L., 2005, *Goodman & Gilman's the pharmacological basis of therapeutics*. 11th ed. Lange: McGrawHill.

#### for chapter in books

Smith, J., 1975, A source of information. In: W. Jones, ed. 2000, *One hundred and one ways to find information about health*. Oxford: Oxford University Press. pp. 44-68.

#### for proceedings

Adina, A.B. Handoko, F.F. Setyarini, I.I. Septisetyani, E.P. Riyanto, S., and Meiyanto, E., 2008. Ethanolic extract *Citrus aurantifolia* increase sensitivity MCF7 cell line towards Doxorubicin, *Proceeding*, Kongres Ilmiah ISFI ke-16, Yogyakarta, ISBN:978-979-95107-6-2, pp. 55-629, 11 Agustus.

#### for official documents

Division of Drugs & Toxicology, 1994, *Drug Evaluation Annual*, New York: American Medical Association

Without author

Cancer in South Africa [editorial], 1994, *S Afr Med J*, **84**, 15-20.

#### Tables and figure

For each table and figures, provide a detail legend explaining the content of the table or figure



9 772088 019045