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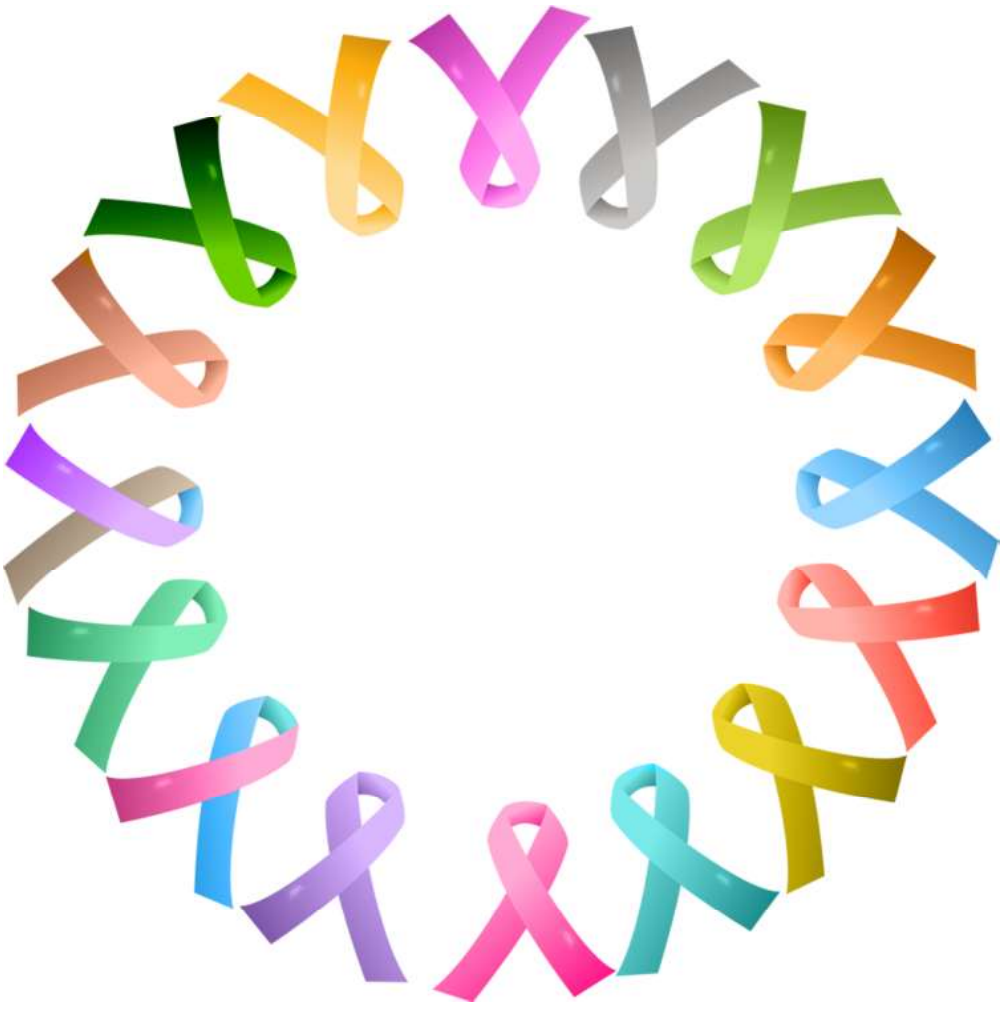
Official Journal of the Serbian Association for Cancer Research



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ONCOLOGY INSIGHTS

Aims and Scope

Oncology Insights is a yearly oncological open-access peer-reviewed journal that publishes new research from different areas of oncology. It strives to provide a platform for the exchange of cutting-edge research and knowledge in the field of oncology. This journal aims to advance the understanding, prevention, diagnosis and treatment through the dissemination of high-quality scientific discoveries.
The journal applies a fair and accurate peer review process, employing double-blind review methodologies. Acceptance of manuscripts is based on their scientific merit, originality, clarity, and contribution to the field.

Topics

Oncology Insights covers a wide spectrum of topics within the field of oncology, including but not limited to:

- Basic and Translational Research
- Clinical Oncology
- Radiation Oncology
- Surgical Oncology
- Pediatric Oncology
- Hematologic Oncology
- Palliative Care
- Epidemiology and Public Health
- Cancer Genetics
- Immunotherapy and Targeted Therapies
- Experimental Therapeutics
- Computational Biology and Artificial Intelligence

About/Information

Oncology Insights welcomes various types of contributions including original research articles, review articles, case reports, case studies, clinical trials, registered reports, comments, brief communications, editorials, letters to the editor, perspectives, and conference papers from a wide range of disciplines related to cancer research.
Through encouraging interdisciplinary collaborations, the journal welcomes contributions that integrate oncology with related fields such as immunology, genetics, biochemistry, radiology, and other relevant disciplines. The journal places a special emphasis on publishing research that highlights emerging trends, novel technologies, and innovative approaches in cancer research and clinical practice.
Oncology Insights is intended for a diverse readership, including oncologists, researchers, clinicians, nurses, allied healthcare professionals, patients, patient advocates, policymakers, and all stakeholders involved in the prevention, diagnosis, and treatment of cancer. It adopts a global perspective, encompassing research from diverse regions addressing oncological challenges that may vary across different populations.
The journal is committed to upholding the highest ethical standards in research and publication provided by established international guidelines.
Periodically, Oncology Insights may publish special issues focusing on specific topics to highlight particular areas of interest or emerging needs.
Authors are provided with clear and comprehensive guidelines for manuscript preparation, including structure, formatting, and other specific requirements.

Esteemed colleagues,

It is a rare honor and privilege in a scientist's career to shape joint efforts and dedication of a group of scientific enthusiasts into a tangible outcome - ***Oncology Insights, the Official Journal of the Serbian Association for Cancer Research*** (srp. Srpsko društvo istraživača raka, SDIR).

The first volume of Oncology Insights has been derived from years of scientific contributions of many individuals and institutions who have selflessly devoted their expertise, ideas and time to establish the SDIR society that today resonates with integrity and charm. In the future, we will strive to maintain those standards, always aiming higher. Thus, we encourage researchers, physicians, nurses, laboratory technicians, as well as patients, survivors, caregivers, and patient advocates to offer their valuable expert insights that will stimulate future progress of oncology in Serbia and worldwide.

Over the last 20 years, we have witnessed remarkable progress in the field of cancer research. Oncology Insights aims to play an integral role in supporting that progress by providing a platform for sharing cutting-edge research, creating a space for new collaborations, partnering established researchers with young investigators, and serving as a home for oncology professionals of various specialties dedicating their careers to this challenging research field.

Oncology Insights pledges to evolve, adapt, reinvent, redefine, and reshape its content to serve its members and inevitable advances in the field. We hope you will be a part of its success story by providing evidence-based, unbiased multidisciplinary content, feeling both an honor and a duty to treat cancer research with the same care, passion, and dedication which individuals with cancer deserve and expect.

Please tune all your senses to enjoy the intellectual feast spread through the pages of this inaugural journal volume. The future of Oncology Insights will be shaped by you.

With kind regards,

Milena Čavić, SDIR President
Editor-in-Chief
Oncology Insights
Official Journal of the Serbian Association for Cancer Research

The first number of Oncology Insights includes
PROCEEDINGS BOOK of
THE SIXTH CONGRESS OF THE SERBIAN ASSOCIATION FOR CANCER RESEARCH
with international participation

From Collaboration to Innovation in Cancer Research

2nd – 4th October 2023
Royal Inn Hotel, Belgrade

SDIR-6 ORGANIZER
Srpsko društvo istraživača raka (SDIR)
Serbian Association for Cancer Research (SACR)
www.sdir.ac.rs

Dear colleagues,

We are very pleased to welcome you to the 6th Congress of the Serbian Association for Cancer Research (SDIR) with international participation "From Collaboration to Innovation in Cancer Research" which will be held on October 2-4 2023, at the Royal Inn Hotel, Kralja Petra 56, Belgrade, Serbia.
During the three-day congress, lectures will be given by distinguished Serbian and international researchers, covering the following topics:

- Tumour metabolism and biology
- Epigenetics and gene regulation in cancer
- Bioinformatics and artificial intelligence in cancer research
- Omics approaches in cancer research
- Therapy response and resistance
- Clinical and translational oncology
- Immunooncology
- New and challenging drug targets
- Pathways to innovation in cancer research

We are pleased to announce that our sixth congress is actively supported by the European Association for Cancer Research (EACR). National and regional cooperation is also important, and so representatives from our friend societies will be attending our congress.
The timing of the organisation of SDIR-6 is important for the establishment of our national society's journal Oncology Insights. The abstracts of the sixth congress will be published in the very first issue of the journal.
Advances and innovations in cancer research are based on growing scientific knowledge and collaboration. We believe you will enjoy the lively atmosphere of the congress and that fruitful scientific discussions will help you build new collaborations and develop new ideas.

We look forward to welcoming you in Belgrade!

Kind regrads,

on behalf of the SDIR-6 Organizing Committee

Prof. dr Katarina Zeljić
Faculty of Biology, University of Belgrade
President of the SDIR-6 Organizing Committee

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Prof. Sonja Levanat, Ruđer Bošković Institute, Zagreb

fibrosarcoma can be recommended for further clinical trials.
Keywords: BHK-21/C13, cell culture, drug effects, fibrosarcoma, hamsters, NF-kB
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Potential of Tamoxifen-based Copper(II) Dichloride in Breast Cancer Therapy

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Background: Estrogen receptor-positive (ER+) breast cancer accounts for approximately 70% of all cases and, concordantly, anti-estrogen therapies present a leading therapeutic choice. Interestingly, tamoxifen, which is the most commonly used drug, has also been proven effective in hormone-independent forms of breast cancer, suggesting the existence of intracellular off-targets. Frequent acquisition of therapy resistance presents a platform for the design of tamoxifen derivatives with a 2,2'-bipyridine unit enabling the coordination of transition metal moieties, such as copper(II) dichloride. Copper (Cu) is an essential element involved in the regulation of cellular growth and development. Disruption of its delicate homeostasis results in severe toxicity and hard medical conditions. Increased demand of cancer cells for this micronutrient makes it a valuable candidate for drug design in cancer treatment. The mechanism of action of Cu complexes is typically based on their ability to induce deadly oxidative stress. This study evaluated the efficacy of a copper–tamoxifen hybrid drug on a panel of breast cancer cell lines with varying receptor expression status. **Material and Methods:** The viability of breast adenocarcinoma cell lines MCF-7, MDA-MB-361, MDA-MB-231, 4T1 and glioma U251 was estimated by MTT and CV assays. Flow cytometric analysis of cells stained with annexin V-FITC/propidium iodide, ApoStat, acridine orange, dihydrorhodamine 123 (DHR), dihydroethidium (DHE) or 4-amino-5-methylamino-2',7'-difluorofluorescein diacetate (DAF) was used to evaluate cell death, caspase activity, autophagy, production of reactive oxygen and nitrogen species (ROS/RNS), respectively. **Results:** The Cu-tamoxifen hybrid drug displayed substantially higher hormone-receptor (HR) independent cytotoxic activity compared to previously reported metal complexes with a similar tamoxifen vector. Massive caspase-dependent apoptotic cell death is partially attenuated by an autophagic process that counteracts death signals. In contrast to the platinum analogue, the copper-based tamoxifen derivative reduces ROS/RNS that may be associated with the intracellular accumulation of the reduced form of CuI which is important for cuproptosis. **Conclusion:** This study demonstrates the potential of the copper–tamoxifen hybrid drug as an intriguing alternative to commonly used platinum complexes in treatment of cancer. Its safety and efficiency will be further estimated *in vivo*.
Keywords: Breast neoplasms, copper, tamoxifen, therapeutics

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The mechanism of action of ruthenium compounds on ovarian tumor cells OVCAR-3

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Abstract in extenso:
Background: From its discovery to the present day, cisplatin and structurally related platinum-based drugs represent an important class of compounds used in cancer therapy (1). The main problem in treatment and antitumor therapy is the occurrence of resistance to platinum-containing compounds and toxicity to healthy tissues. Researchers are for decades working on the development of new antitumor drugs that will successfully replace cisplatin and overcome