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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





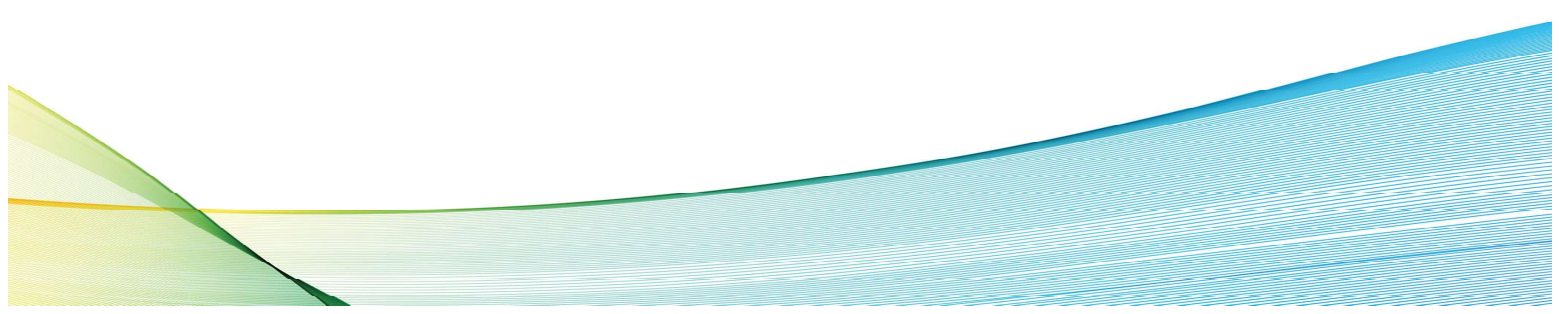
The first number of Oncology Insights includes
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THE SIXTH CONGRESS OF THE SERBIAN ASSOCIATION FOR CANCER RESEARCH
with international participation



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.

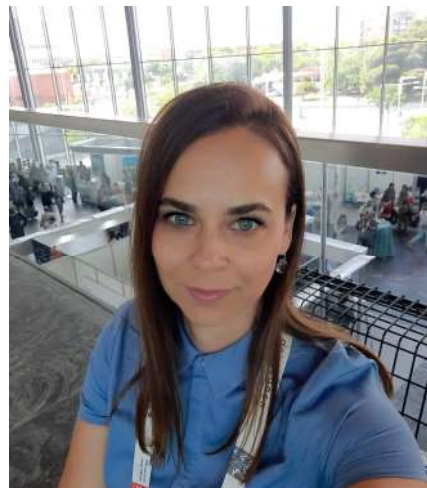
We look forward to welcoming you in Belgrade!

Kind regards,

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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PROCEEDINGS BOOK

ABSTRACTS

Plenary Lectures
Invited Lectures
Oral Presentations
Posters



LECTURES

INVITED LECTURES

L01**Discovery of novel HDAC inhibitors for therapy of triple-negative breast cancer – preclinical study**

Dušan Ružić¹, Miloš Petković², Nemanja Đoković¹, Juan F. Santibanez³, Aleksandar Pavić⁴, A. Ganesan⁵, Tatjana Srdić-Rajić⁶, Katarina Nikolić¹

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Triple-negative breast cancer (TNBC) is an aggressive form of breast cancer that has poor survival rates due to the absence of specific molecular markers such as estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2). In the era of precision oncology, it is recognized that an imbalance in post-translational modifications of histones, such as histone lysine acetylation and deacetylation, is closely linked to tumor initiation and progression. Two groups of enzymes control the reversible nature of histone post-translational acetylation: histone acetyltransferases (HATs) and histone deacetylases (HDACs). Isoform-specific targeting of HDACs is considered a rational strategy to develop safe anticancer therapeutics compared to non-selective HDAC inhibitors. However, non-selective HDAC inhibitors have been more extensively studied in clinical trials. This work presents the design and discovery of potent HDAC inhibitors that selectively target HDAC6 isozyme, using 1-benzhydryl piperazine as a surface recognition group with different hydrocarbon linkers. Through in vitro screening, two HDAC6-selective inhibitors with nanomolar IC₅₀ values and two non-selective HDAC inhibitors were identified. Structure-based molecular modelling was utilized to investigate the impact of linker chemistry on the potency of synthesized inhibitors against HDAC6. The anti-cancer, anti-migratory, and anti-invasive activities of these compounds were evaluated using breast cancer cell lines (MDA-MB-231 and MCF-7). Experiments on a zebrafish MDA-MB-231 xenograft model demonstrated that a novel non-selective HDAC inhibitor (compound 8b) with a seven-carbon-atom linker exhibited potent effects against tumor growth, metastasis, and angiogenesis at low micromolar concentrations.

Keywords: anticancer drug, breast cancer, histone deacetylases, hydroxamic acid

L02**Estrogen Receptor Beta promoter methylation as a possible biomarker in breast cancer**

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Since the estrogen receptor alpha (ER α), together with the progesterone receptor (PR) and the herceptin receptor 2 (HER-2), are the dominant factors determining the groups of breast cancer (BC) patients, breast cancer treatment depends on the presence or absence of these three molecules. Approximately 70% of patients receive hormone treatment targeting the estrogen receptor alfa, with tamoxifen (selective oestrogen receptor modulator) being the first choice as it inhibits further proliferation of cancer cells. However, 30% of patients do not respond to existing hormone therapy, raising the question of new targets and treatment options. Non-responders include patients who have acquired resistance to standard treatment and triple-negative breast cancer patients (TNBC), characterized by the absence of ER α , PR and HER-2. One of the unexplored potentials for treatment is a protein homologue of ER α , estrogen receptor beta (ER β), as many studies show ER β expression in ER α -negative patients. The estrogen receptors alpha and beta belong to the superfamily of nuclear receptors, and their dominant ligand is estrogen. When estrogen binds to estrogen receptors, they form dimers (homo or heterodimers) and bind ERE sequences of target genes (estrogen receptor elements). In a heterodimeric state, ER β can inhibit ER α transactivation and thus influence the signalling pathways. ER α and ER β are encoded by highly homologous genes (ESR1 and ESR2), resulting in two highly homologous