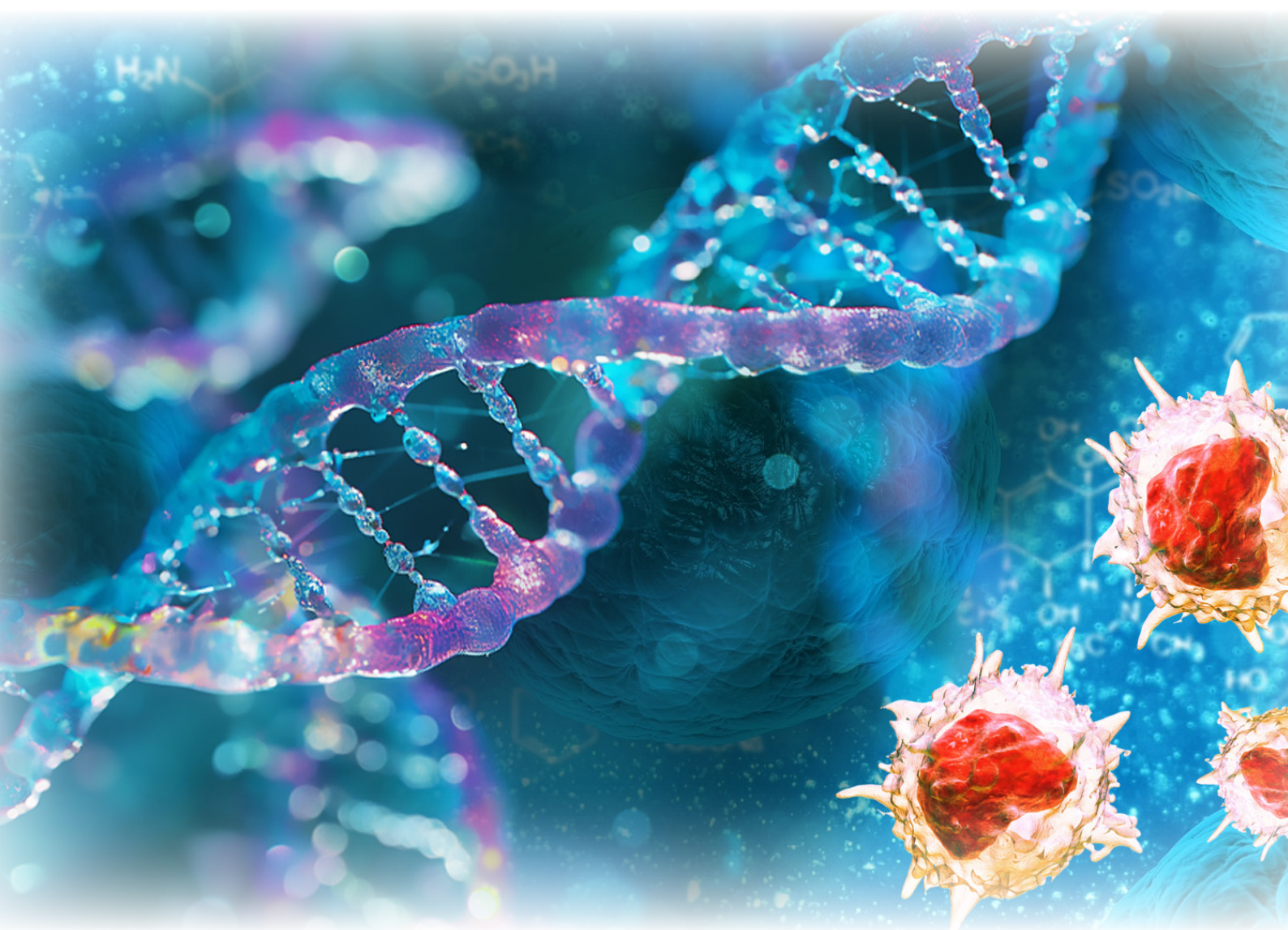


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ONCOLOGY INSIGHTS

Aims and Scope

Oncology Insights is an annual 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.

AUTHOR GUIDELINES

Manuscript submission

By submitting a manuscript, authors affirm that their contribution to Oncology Insights journal is entirely original, has not been published before, is not under consideration for publication elsewhere, and has received approval for publication from all co-authors. Additionally, tacit or explicit consent must be obtained from the responsible authorities at the institution where the research was conducted.

Authors bear sole responsibility for the content of their submissions, and the accuracy of the experimental findings, and must ensure they possess proper permission from all involved parties to disseminate the data.

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- Introduction
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- Results¹
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Dear colleagues,

The third volume of *Oncology Insights*, the Official Journal of the Serbian Association of Cancer Research (Srpsko društvo istraživača raka, SDIR) nicely depicts the advancements in oncology today, with a glimpse of efforts invested into broadening the scope of our research. We insist on excellence and integrity, bringing innovative approaches into our community with an open view of the specific needs of our patients.

The third volume of *Oncology Insights* features Original Research articles, Review Future Horizons articles, and Personal Points of View from researchers and patient advocates highlighting publishing integrity and advocating for wider access to oncological care.

Oncology Insights also serves as a venue for new original data from the first Regional Congress of EACR-affiliated Serbian, Croatian and Turkish societies SDIR, HDIR, and MOKAD (SHM1RC) held in Belgrade, Serbia, from October 8 to 10, 2025. The congress addressed key topics in cancer research and enhanced collaboration and the exchange of new ideas within the EACR national communities.

Lectures and short abstracts from the fields of Combination anti-cancer therapies, Clinical oncology, Molecular diagnostics in oncology, Stem cells and cancer, MDR in cancer treatment, Liquid biopsy, Cancer epidemiology, (Epi)genetics, Cancer biomarkers, New cancer therapies, Signaling pathways, Anticancer drug development, Personalized anticancer treatment, Translational oncology and Cancer radiobiology among others, are published as official Congress material.

Oncology Insights offers a platform aimed at challenging our comfort zone, discussing topics which are sometimes avoided in the everyday struggle to publish articles and prepare new projects. We invite researchers, physicians, nurses, laboratory technicians, as well as patients, survivors, caregivers, and patient advocates to offer their valuable expert insights to our journal on topics you consider important. Offering your tailored point of view stimulates the progress of oncology by collaborative efforts. We invite you to join us in shaping the future by providing evidence-based, unbiased multidisciplinary content for our future volumes, thus inspiring new lines of interest for our readers.

During these challenging times, we invite you to strive for personal and collective scientific integrity and hold on to your knowledge as your superpower. Please enjoy exploring the third volume of our journal - we hope it brings you numerous moments of intellectual freedom.

With kind regards,



Milena Čavić, SDIR President

Editor-in-Chief

Oncology Insights

Official Journal of the Serbian Association for Cancer Research





The third number of Oncology Insights includes
PROCEEDINGS BOOK of
The 1st Regional SDIR-HDIR-MOKAD Congress



The 1st **SDIR-HDIR-MOKAD** regional congress

October 8-10, 2025, Belgrade, Serbia
Nobel Zira Hotel

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Croatian Association for Cancer Research
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with the support of EACR



Dear Colleagues,

The organization of the 1st Regional Congress of the three national societies is now complete. It is an understatement to say that this has been an extremely demanding task, requiring the involvement of all of us over the past few months. We believe we have fulfilled our responsibilities well.

We set ourselves two important goals. The first was to create a welcoming atmosphere for every participant, allowing them to expand their knowledge, present their results, establish new collaborations, and develop new scientific ideas. The second goal was to provide ample free time for participants to enjoy our beautiful city, which is especially inspiring this autumn.

We hope you will make the most of the time ahead. We also want you to take wonderful memories from Belgrade, share them with us, and inspire us to continue pursuing such initiatives. Scientific inquiry knows no boundaries; it should flourish for the benefit of all, especially for those who come after us.

Sincerely,

on behalf of the Organizing Committee



A handwritten signature in blue ink, appearing to read 'Ana Damjanović Veličković'.

Dr sc Ana Damjanović Veličković
Senior research associate
Institute for Oncology and Radiology of Serbia
Belgrade, Serbia



A handwritten signature in blue ink, appearing to read 'Petar Ozretić'.

Adj. Asst. Prof. Dr Petar Ozretić
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SESSION 14

INNOVATIVE MODELS AND APPROACHES IN CANCER RESEARCH

P91

Trophoblast-derived extracellular vesicles enhance cisplatin-induced apoptosis in ovarian cancer A2780 cells via Bax/Bcl-2 modulation

Jovana Vuković, Ninoslav Mitić, Mirjana Nacka Aleksić, Filip Janjić, Andrea Pirković

Institute for the Application of Nuclear Energy-INEP, University of Belgrade, Belgrade, Serbia

Keywords: Ovarian cancer, extracellular vesicles, cisplatin, apoptosis, trophoblast

Background: Ovarian cancer is the leading cause of death among gynecological malignancies, associated with frequent chemoresistance. Extracellular vesicles (EVs) from the placenta have recently shown therapeutic potential by altering the ovarian tumor cell phenotype, though the precise mechanisms remain unclear. The aim of this study was to investigate whether EVs from trophoblast cells (TC-EVs) could affect the viability of ovarian cancer A2780 cells and improve their sensitivity to cisplatin.

Material and methods: TC-EVs were isolated from the conditioned media of the trophoblast cell line HTR-8/SVneo using differential ultracentrifugation. Analysis of the concentration and size distribution of total, as well as CD9- and CD81-positive TC-EVs, was performed using a nanoparticle tracking analyzer. Ovarian cancer cells A2780 were preconditioned with TC-EVs (50 µg/mL protein) for 24 or 48 hours, followed by treatment with 15 µM cisplatin. Cell viability was assessed by MTT assay, and changes in the expression of pro-apoptotic Bax and anti-apoptotic Bcl-2 mRNA were quantified using qPCR.

Results: At the 24h treatment, cisplatin treatment markedly reduced the viability of A2780 cells, and there was no difference between TC-EVs preconditioned cells and cells exposed to cisplatin alone. However, at the 48-hour treatment, preconditioning with TC-EVs produced a statistically significant additional decrease in cell viability compared to cisplatin alone, indicating a potential sensitizing effect of TC-EVs. This was accompanied by increased Bax and decreased Bcl-2 expression, resulting in a higher Bax/Bcl-2 ratio in TC-EVs preconditioned cells, indicating a pro-apoptotic shift.

Conclusions: Trophoblast-derived EVs display in vitro cisplatin-sensitizing effects in ovarian cancer cells in a time-dependent manner, likely by modulating pro-apoptotic pathways. This suggests that TC-EVs might play a role in improving the effectiveness of platinum-based ovarian cancer chemotherapy.

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