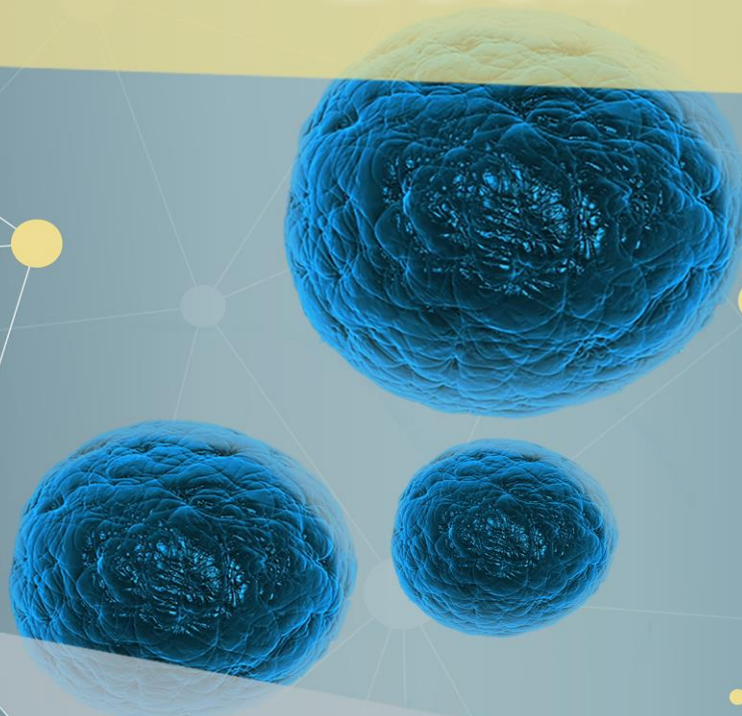


Serbian Association for Cancer Research

**5th CONGRESS OF SDIR:
TRANSLATIONAL POTENTIAL OF
CANCER RESEARCH IN SERBIA**

**ABSTRACT
BOOK**



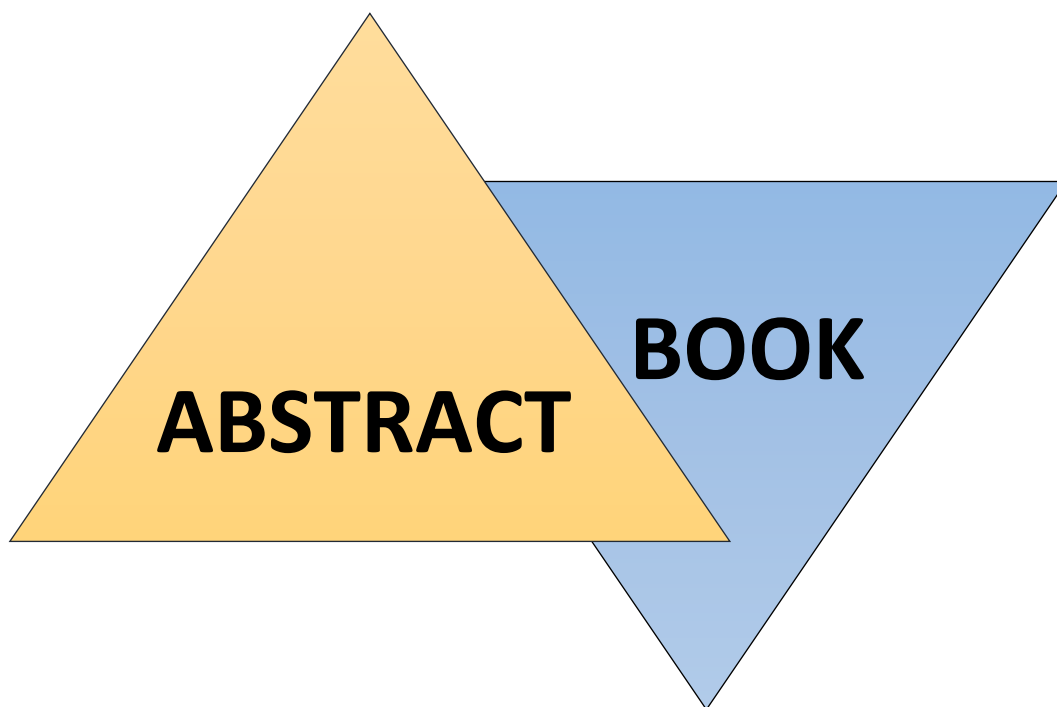
**Virtual event
December 3**

2021

**EACR
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5th CONGRESS OF THE SERBIAN ASSOCIATION FOR
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With international participation



TRANSLATIONAL POTENTIAL OF CANCER
RESEARCH IN SERBIA

SDIR – 5

Virtual event, December 3, 2021

THE FIFTH CONGRESS OF THE SERBIAN ASSOCIATION FOR CANCER RESEARCH

with international participation
"TRANSLATIONAL POTENTIAL OF CANCER RESEARCH IN
SERBIA "

December 3, 2021, Virtual event
Serbian Association for Cancer Research (SDIR) is a member of the European Association for
Cancer Research (EACR).
President of SDIR-5 Congress
dr sc. med. Mirjana Branković-Magić

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with international participation "Translational potential of cancer research in Serbia" Virtual event,

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LETTER OF WELCOME

Dear colleagues,

We are very pleased to welcome you to the 5th Congress of the Serbian Association for Cancer Research (SDIR) with international participation "Translational potential of cancer research in Serbia" to be held on December 3, 2021 as a virtual event.

During the congress, lectures will be delivered by a distinguished Serbian and international researchers, that will cover the following topics:

- *Liquid biopsies in lung cancer*
- *Advances in solid tumor research*
- *Cancer and metabolism*
- *Radiobiology*
- *Imaging in cancer*

We are pleased to say that our fifth congress is actively supported by the European Association for Cancer Research.

We are delighted to welcome you!

Kind regards,



dr sc. med. Mirjana Branković-Magić, president of SDIR



dr sc. Milena Čavić, president of the Organizing Committee



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The Serbian Association for Cancer Research is also very grateful to the following sponsors for providing financial support to the SDIR-5 congress:

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PROGRAMME

03.12.2021. Virtual event 09.00 – 17.30

- 09.00 – 09.05 **Congress welcome and opening.** SDIR President Mirjana Branković-Magić
- 09.05 – 09.30 EACR Plenary lecture – EACR President Caroline Dive. **Liquid biopsies in lung cancer.** *University of Manchester, Manchester, UK*
- 09.30 - 09.40 Discussion
- 09.40 – 11.05 **Session: Advances in solid tumor research**
Chairs: Caroline Dive and Milena Čavić
- 09.40 – 10.00 Remond J.A. Fijneman. **ctDNA biomarker detection in patients with colorectal cancer.** *The Netherlands Cancer Institute, Amsterdam, Netherlands*
- 10.00 – 10.20 Gunes Esendagli. **Mesenchymal properties and immune checkpoint pathways in small cell lung cancer (SCLC) stem cells.** *Hacettepe University Cancer Institute, Ankara, Turkey*
- 10.20 – 10.50 **Short talks selected from SDIR member PIs of The Program for Excellent Projects of Young Researchers (PROMIS) of the Science Fund of the Republic of Serbia**
- 10.20 – 10.30 Miljana Tanić. **Tracking systemic therapy resistance of lung and colorectal cancer through targeted NGS analysis of genetic and epigenetic variants in liquid biopsies.** *Institute of Oncology and Radiology of Serbia, Serbia*
- 10.30 – 10.40 Aleksandra Nikolić. **Cancer biosensors based on gene regulatory elements.** *Institute of Molecular Genetics and Genetic Engineering, Serbia*
- 10.40 – 10.50 Jelena Grahovac. **Drug repurposing in pancreatic ductal adenocarcinoma.** *Institute of Oncology and Radiology of Serbia, Serbia*
- 10.50 – 11.05 Discussion
- 11.05 – 11.15 Break
- 11.15 – 12.40 **Session: Cancer and metabolism**
Chair: Milica Pešić
- 11.15 – 11.35 Liang Li. **An antibody drug conjugate-like agent DTLL sensitizes gemcitabine efficacy in pancreatic cancer based on SMAD4 profiles.** *Institute of Medicinal Biotechnology, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China*

- 11.35 – 11.55 Ljubica Harhaji-Trajković. **Dual targeting of energy metabolism and lysosomes as an anticancer strategy; it is not all about autophagy.** *Institute for Biological Research "Siniša Stanković", University of Belgrade, Belgrade, Serbia*
- 11.55 – 12.23 **Short talks selected from abstracts**
- 11.55 – 12.02 Nikolina Piteša. **Genes for competing endogenous RNAs as targets of transcription factors GLI in melanoma cell lines.** *Ruđer Bošković Institute, Zagreb, Croatia*
- 12.02 – 12.09 Cristina P.R. Xavier. **Chitinase 3-like-1 (CHI3L1) as a potential therapeutic target for pancreatic cancer.** *Instituto de Investigação e Inovação em Saúde, Universidade do Porto, Institute of Molecular Pathology and Immunology, University of Porto, Portugal*
- 12.09 – 12.16 Jovana Jagodić. **Elemental profile of glioblastomas – analysis of blood, cerebrospinal fluid and brain tissue.** *Faculty of Chemistry, Belgrade, Serbia*
- 12.16 – 12.23 Stefana Stojanović. **Hsa-miR-222 identifies high-risk PTC patients with classical variant architecture.** *Institute for the Application of Nuclear Energy — INEP, University of Belgrade, Belgrade, Serbia*
- 12.23 – 12.40 Discussion
- 12.40 – 12.45 Break
- 12.45 – 14.30 **Session: Radiobiology**
- Chairs: Marina Nikitović and Ivana Matić
- 12.45 – 13.00 Irina Besu Žižak. **The role of IL6 in radiotherapy-induced toxicity.** *Institute of Oncology and Radiology of Serbia, Serbia*
- 13.00 – 13.15 Bojana Ilić. **Cellular senescence in ionizing radiation.** *Clinic for Endocrinology, Diabetes and Metabolic Diseases, Clinical Center of Serbia, Serbia*
- 13.15 – 13.30 Jadranka Antić. **Effects of ionizing radiation on DNA methylation: from experimental biology to clinical applications.** *Clinic for Endocrinology, Diabetes and Metabolic Diseases, Clinical Center of Serbia*
- 13.30 – 13.45 Sercan Ergün. **The interrelationship between FYN and miR-128/193a-5p/494 in Imatinib resistance in prostate cancer.** *Faculty of Medicine, Ondokuz Mayıs University, Samsun, Turkey*
- 13.45 – 14.13 **Short talks selected from abstracts**
- 13.45 – 13.52 Sami Ahmad. **Gene expression kinetics and pathway analysis of skin fibroblasts irradiated in vitro.** *Universitätsmedizin Mannheim, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany*

- 13.52 – 13.59 Jelena Stanić. **Radiation-induced lymphocyte apoptosis as a possible biological predictor of radiotherapy toxicity in prostate cancer patients.** *Institute of Oncology and Radiology of Serbia, Serbia*
- 13.59 – 14.06 Aleksandar Stepanović. **Can miRNA expression patterns predict radiotoxicity in patients with glioblastoma?** *Institute of Oncology and Radiology of Serbia, Serbia*
- 14.06 – 14.13 Bojana Kožik. **Potential predictive role of K-ras gene mutation and BCL2 protein expression status in locally advanced rectal cancers treated with neoadjuvant chemoradiotherapy.** *Vinča Institute of Nuclear Sciences, National Institute of Republic of Serbia, University of Belgrade, Serbia*
- 14.13 – 14.30 Discussion
- 14.30 – 15.15 **Poster Session, lunch break and industry session viewing.**
Moderator Ana Krivokuća
- 15.15 – 17.00 **Session: Imaging in cancer**
Chair: Jelena Grahovac
- 15.15 – 15.35 Bojana Gligorijević. **Real-time microscopy of invasive cancer cells in the tumor microenvironment context.** *Temple University, USA*
- 15.35 – 15.55 Jelena Stanisavljević. **Defining and imaging colon cancer heterogeneity.** *Institute of Photonic Sciences, Barcelona Institute for Science and Technology, Spain*
- 15.55 – 16.15 Giorgio Seano. **Vessel co-option and resistance to therapy in glioblastoma.** *Institut Curie Research Center, Centre Universitaire, France*
- 16.15 – 16.43 **Short talks selected from abstracts**
- 16.15 – 16.22 Predrag Jovanovic. **Characterizing the role of 4E-BP1 in breast cancer metastasis.** *Jewish General Hospital, Lady Davis Institute, Montreal, Canada; McGill University, Experimental Medicine, Montreal, Canada*
- 16.22 – 16.29 F. Koutsougianni. **Siramesine, a non-opioid σ_2 receptor agonist as a potential agent for the development of novel targeted treatments for pancreatic cancer.** *University of Thessaly, Larisa, Greece*
- 16.29 – 16.36 Batuhan Mert Kalkan. **The role of Nek2 on centrosome clustering in cancer cells with extra centrosomes.** *Koç University, Graduate School of Health Sciences, Istanbul, Turkey*
- 16.36 – 16.43 Tijana Martinov. **Sox2-targeted T cell therapy for treating multiple myeloma.** *Fred Hutchinson Cancer Research Center, Seattle, United States of America*
- 16.43 – 17.00 Discussion
- 17.00 – 17.30 **Closing remarks and best poster awards.** SDIR President Mirjana Branković-Magić

Contents

EACR Plenary lecture	1
Liquid biopsies in lung cancer	1
Session: Advances in solid tumor research	2
LECTURES	2
ctDNA biomarker detection in patients with colorectal cancer	2
Mesenchymal properties and immune checkpoint pathways in small cell lung cancer (SCLC) stem cells	3
Short talks	4
Targeted BS-seq methods for the study of epigenetic landscape in solid tumors and liquid biopsies	4
Cancer biosensors based on gene regulatory elements.....	5
Drug repurposing in pancreatic ductal adenocarcinoma	6
Session: Cancer and metabolism	7
LECTURES	7
An antibody drug conjugate-like agent DTLL sensitizes gemcitabine efficacy in pancreatic cancer based on SMAD4 profiles.....	7
Dual targeting of energy metabolism and lysosomes as an anticancer strategy; It is not all about autophagy	8
Short talks	9
Genes for competing endogenous RNAs as targets of transcription factors GLI in melanoma cell lines	9
Chitinase 3-like-1 (CHI3L1) as a potential therapeutic target for pancreatic cancer.....	10
Elemental profile of glioblastomas – analysis of blood, cerebrospinal fluid and brain tissue.....	11
Hsa-miR-222 identifies high-risk PTC patients with classical variant architecture	12
Session: Radiobiology	13
LECTURES	13
The role of IL-6 in radiotherapy-induced toxicity	13
Cellular senescence in ionizing radiation	14
Effects of Ionizing Radiation on DNA Methylation: From Experimental Biology to Clinical Applications.....	15
The Interrelationship between FYN and miR-128/193a-5p/494 in Imatinib Resistance in Prostate Cancer	16
Short talks	17
Gene expression kinetics and pathway analysis of skin fibroblasts irradiated <i>in vitro</i>	17

Radiation-induced lymphocyte apoptosis as a possible biological predictor of radiotherapy toxicity in prostate cancer patients	18
Can miRNA expression patterns predict radiotoxicity in patients with glioblastoma?	19
Potential predictive role of K-ras gene mutation and BCL2 protein expression status in locally advanced rectal cancers treated with neoadjuvant chemoradiotherapy	20
Session: Imaging in cancer	21
LECTURES	21
Real-time microscopy of invasive cancer cells in the tumor microenvironment context	21
Defining and imaging colon cancer heterogeneity	22
Vessel co-option and resistance to therapy in glioblastoma	23
Short talks	24
Characterizing the role of 4E-BP1 in breast cancer metastasis	24
Siramesine, a non-opioid σ_2 receptor agonist as a potential agent for the development of novel targeted treatments for pancreatic cancer	25
The Role of Nek2 on Centrosome Clustering in Cancer Cells with Extra Centrosomes	26
Sox2-targeted T cell therapy for treating multiple myeloma	27
POSTER SESSION	28
Pan-cancer analysis of the role of flap endonuclease 1 (FEN1) in human various tumors	28
<i>In Vitro</i> Investigations of miR-33a Expression in Estrogen Receptor-Targeting Therapies in Breast Cancer Cells	29
Gene expression profiling of MSI and EMMET coloproctal cancers	30
Expression and diagnostic potential of genes involved in PI3K/AKT/mTOR pathway in endometrial cancer	31
Intratumor heterogeneity of microsatellite instability in sporadic colorectal cancer	32
Multi-omic profiling of cancer cells, exosomes, and cell-free DNA isolated from the cerebrospinal fluid of pediatric brain cancer patients	33
The effect of osteogenic differentiation on oral cancer stem cells' miR-21 and miR-133 expression	34
Evaluation of differential transcriptional regulator binding to alternative CD81 gene promoters	35
Methylation status of <i>MGMT</i> promoter in glioblastoma in Serbian patients: valuable marker or not?	36
The prognostic significance of interleukin-6 in hormonally dependent breast cancer	37
Role of <i>TP53</i> and <i>PTEN</i> tumor suppressor genes alterations in breast cancer response to therapy	38
A novel triple negative lipid rich breast cancer (TN/LRBC) patient derived xenograft (PDX)	39
Quality of life in patients surgically treated for oral carcinoma	40
Genetic analysis of <i>SMAD7</i> 3'UTR in human colorectal cancer	41

The expression of MicroRNA-30a-3p and Estrogen Receptor β in Papillary Thyroid Cancer	42
Differential Expression of <i>VHL</i> mRNA in Parathyroid Carcinoma and Adenoma.....	43
α PA/PAI-1, MMP-2, -9, IL-8 and VEGF as markers of progression in early breast cancer patients	44
The role of TLR4 in sporadic colorectal cancer displaying microsatellite instability	45
Triple negative breast cancer and anoikis	46
Diagnostic and prognostic potential of <i>miR-146</i> gene expression in oral carcinoma	47
Analysis of alpha-1 antitrypsin expression in multidrug resistant cell lines	48
Identification and validation of mechanism responsible for leukemia cell death treated with bis-(salicylaldehyde)thiocarbohydrazone (BTCH1).....	49
Investigation of the molecular effects of palbociclib and celestrol combination treatment in pancreatic cancer cells.....	50
MiR-93-5p expression in response to the systemic, targeted, and combinational therapy for metastatic colorectal cancer and therapy resistance: <i>in vitro</i> analysis	51
Overcoming paclitaxel-induced multidrug resistance in glioblastoma cells by using a combination of metformin and bafilomycin A1	52
Anti-obesity drug Orlistat (Xenical®) induces antiangiogenic potential in breast cancer cell lines....	53
Molecular mechanisms of nanoparticle-mediated biological effects in doxorubicin treated cells....	54
Effect of lipid raft disruption on AQP3, AQP5, and EGFR pathway.....	55
Studying the ability of tumor multidrug-resistant cells and drug-sensitive counterparts to release and capture extracellular vesicles.....	56
I1-imidazoline receptor ligand inhibits P-glycoprotein efflux in pancreatic ductal adenocarcinoma cells	57
Combination of sirtuin 3 and hyperoxia diminishes tumorigenic properties of MDA-MB-231 cells..	58
Ursodeoxycholic acid influences antioxidative capacity in human breast adenocarcinoma cell line through Nrf2-dependent axis	59
Association between <i>TGFB1</i> C-509T polymorphism and acute toxicity after radiotherapy for prostate cancer	60
Impact of <i>TGFB1</i> Leu10Pro polymorphism on acute radiotherapy-induced toxicity in prostate cancer patients	61
Organ preservation approach for distant located rectal cancer	62
NF- κ B as common target gene of miRNAs related to oxidative stress and prostate cancer radiotherapy response.....	63
<i>In silico</i> analysis of predictive biomarkers for neoadjuvant chemoradiotherapy in locally advanced rectal cancer.....	64
<i>Clinopodium nepeta</i> (L.) Knutze essential oil <i>in-vitro</i> anti-proliferative activity on PC-3, Du145 and LS174 human cancer cell lines	65

An Adapted One-dimensional Computational Approach for Irregular ROI Analysis Improves Osteosarcoma Classification	66
Evaluation of the Potential Effects of <i>Cimicifuga racemosa</i> Extract and Natural Compounds on Different Cancers	67
Screening of the cytotoxic, antibacterial and antifungal activities of <i>Saccorhiza polyschides</i> algae extract	68
Antineuroblastoma potential of polyoxopalladate(II)	69
Selected polyoxopalladates as potential antitumor drug candidates	70
Potential of Mesoporous Silica Nanoparticles for Applications in Targeted Treatment of Cancer....	71
Anticancer effects of sclareol and its derivatives in glioblastoma cells.....	72
Development and validation of a simple and reliable UV-coupled HPLC assay for the determination of gemcitabine in serum: application in pharmacokinetic analysis.....	73
Ruthenium (II) complexes as promising candidates for cancer therapy	74
Bee venom and melittin induce apoptosis in colon cancer cell lines by Caspase 8 activation.....	75
The role of PLAG1 oncogene and miR-26a/miR-26b in the pathogenesis of benign salivary gland tumors.....	76
Evaluation of the Potential Effect of <i>Helichrysum arenarium</i> Extract and Natural Compounds on Cancers Triggered by Obesity Mediated Inflammation	77
The effect of CDK4/6 inhibition on cancer stem like-properties-induced Panc-1 and MiaPaCa-2 pancreatic cancer cells.....	78
Inhibition of cancer growth with NF-kB suppressor nitroglycerin can be reversed by NF-kB stimulation in hamster fibrosarcoma.....	79
NF-kB inactivation is important for disulfiram suppression of fibrosarcoma which can be rescued by NF-kB stimulator mebendazole in hamster model	80
The effects of Salinomycin on melanoma cell lines of different invasiveness.....	81
Antitumor features of dual COX-2 and 5-LOX inhibitors on melanoma and colon cancer cell lines <i>in vitro</i>	82
Effects of vegf on molecular profile and invasiveness of human prostate cancer cells <i>in vitro</i>	83
Investigation the role of hippo signaling in metformin-induced apoptosis and autophagy mechanisms in MDA-MB-231 breast cancer cells	84
INDEX.....	85

P43

Selected polyoxopalladates as potential antitumor drug candidates

Marija Jeremic¹, Andjelka M. Isakovic¹, Danijela Krstić², Mirjana B. Čolović³, Ulrich Kortz⁴, Sonja Misirlic-Dencic¹

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Background: Polyoxo-noble-metalates, a class of molecular noble metal-oxo nanoclusters that combine features of both polyoxometalates and noble metals, are a promising platform for the development of next-generation antitumor metallodrugs. The aim of this study was to evaluate the antineuroblastoma potential of three novel polyoxopalladates. **Material and methods:** All experiments were performed on human neuroblastoma cell line, SHSY5Y. The three polyoxo-noble-palladates $\text{Na}_4[\text{SrPd}_{12}\text{O}_6(\text{OH})_3(\text{PhAsO}_3)_6(\text{OAc})_3] \cdot 2\text{NaOAc} \cdot 32\text{H}_2\text{O}$ (SrPd₁₂), $\text{Na}_{12}[\text{Sn}^{\text{IV}}\text{O}_8\text{Pd}_{12}(\text{PO}_4)_8] \cdot 43\text{H}_2\text{O}$ (SnPd₁₂) and $\text{Na}_{12}[\text{Pb}^{\text{IV}}\text{O}_8\text{Pd}_{12}(\text{PO}_4)_8] \cdot 38\text{H}_2\text{O}$ (PbPd₁₂) were investigated in our study. The viability of neuroblastoma cells after 24h treatment was assessed using an acid phosphatase assay. The level of superoxide ion, mitochondrial membrane potential, pan-caspase activity, cell cycle analysis and acidic vesicles content were determined by flow cytometry using appropriate fluorochromes. **Results:** Calculated IC₅₀ (μM; 24h) values were 75.8 ± 6.7 (SrPd₁₂) and $\gg 100$ (SnPd₁₂ and PbPd₁₂), selecting SrPd₁₂ as the most efficient. SrPd₁₂ did not affect the mitochondrial membrane potential and superoxide production in neuroblastoma cells after short (2 h and 4 h) exposure. Also, it did not induce an increase in the number of neuroblastoma cells with fragmented DNA content, but displayed the cell cycle arrest: the ~ 23% reduction of neuroblastoma cells in G₀/G₁ phase and the ~ 17% increase in S phase. The treatment with SrPd₁₂ did not increase the level of acidic vesicles but it increased the activity of caspases five-fold. **Conclusion:** Only SrPd₁₂ exhibited a satisfactory antineuroblastoma action by inducing caspase activation and neuroblastoma cell cycle arrest.

Keywords: polyoxopalladates, neuroblastoma, antitumor

