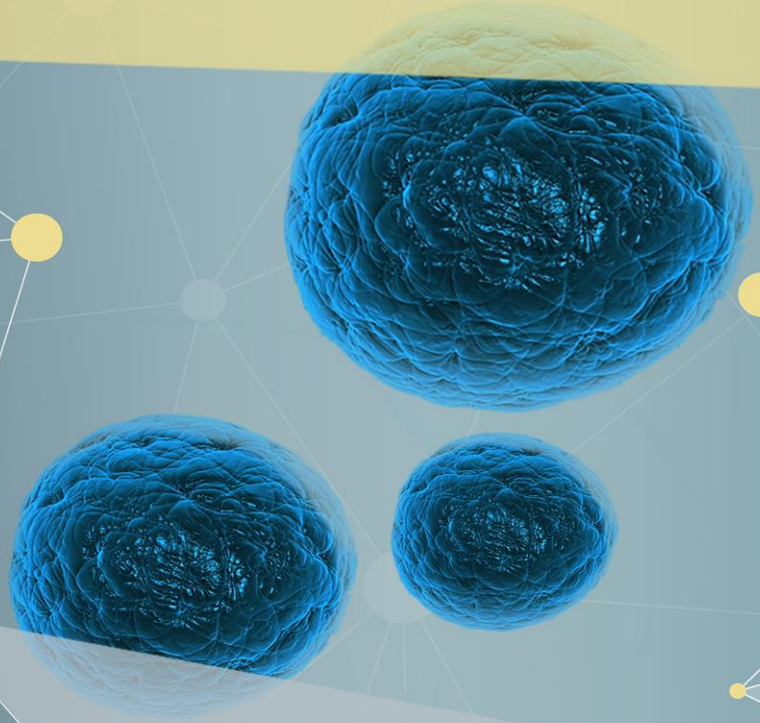
Serbian Association for Cancer Research

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

# ABSTRACT BOOK



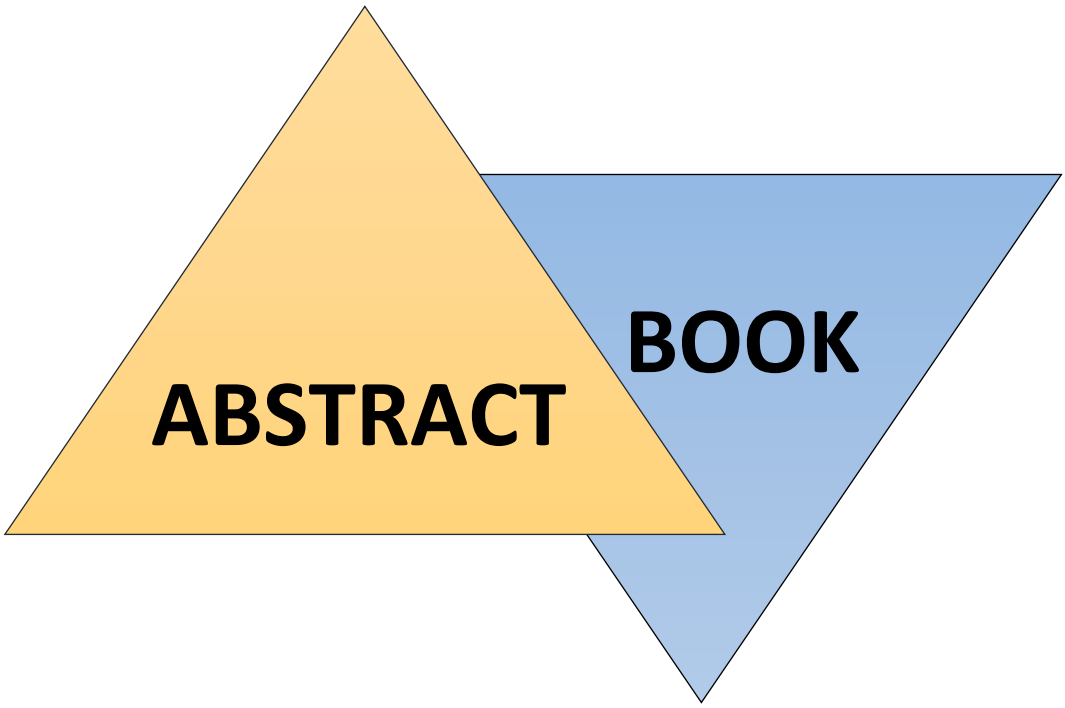
**Virtual event**
**December 3**

**2021**

**EACR sponsored**

5th CONGRESS OF THE SERBIAN ASSOCIATION FOR CANCER RESEARCH

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

THE FIFTH CONGRESS OF THE SERBIAN ASSOCIATION FOR CANCER RESEARCH
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

# P11

## Role of *TP53* and *PTEN* tumor suppressor genes alterations in breast cancer response to therapy

Milica Nedeljković[1], Tatjana Dramićanin[2], Mirjana Prvanović[3], Blagoje Murganić[2], Tijana Tomić[2], Neila Ademović[4], Zorka Milovanović[1], Nikola Tanić[4], Nasta Tanić[2]

[1]*Institute of Oncology and Radiology of Serbia, Pasterova 14, 11000 Belgrade, Serbia*

[2]*Institute of Nuclear Sciences „Vinča",University of Belgrade, p.fah 522, 11001 Belgrade, Serbia*

[3]*Institute of Pathology, Faculty of Medicine, University of Belgrade, 11000 Belgrade, Serbia*

[4]*Institute for Biological Research „Siniša Stanković", University of Belgrade, Blvd. Despota Stefana 142, 11000 Belgrade, Serbia*

Background: Breast cancer (BC) is the most frequent type of malignancy and the leading cause of cancer related death among women worldwide. Multiple interconnected factors determine BC response to therapy and clinical outcome. *TP53* and *PTEN* are the most frequently altered tumor suppressor genes (TSGs) in human cancers. Material and methods: To determine the potential influence of TSGs on the response to therapy we analyzed alterations of *TP53* and *PTEN* in 90 BC specimens. The specimens were stratified based on systemic adjuvant therapy (hormonal therapy only (HT), HT and chemotherapy (HT/CHT), HT/CHT and biological therapy (HT/CHT/H). Functional inactivation of *TP53* by mutations and/or loss of heterozygosity (LOH) and *PTEN* by LOH and/or promoter hypermethylation, were tested using single-strand conformational polymorphism (SSCP) analysis, gene sequencing, fragment analysis and methylation-specific PCR (MS-PCR) methods respectively. Results: Altered *TP53* was found in 63/90 specimens (70%) while 54/90 (60%) had inactivated *PTEN*. Inactivation of *PTEN* was more frequent in tumors with altered *TP53*. Patients with altered *TP53*, lived shorter (p=0.0007) compared to those with wild type (wt) gene. The survival of patients with both TSGs altered was shorter compared to wt genes (p=0.024). Patients with wt*TP53* treated with HT had longer survival (p=0.000001) when compared to all other groups. Women with both TSGs altered who received tamoxifen lived shorter than those on HT with both/one TSGs intact (p = 0.03). Conclusion: Patients with wt*TP53* showed significantly better therapy response regardless of type of therapy, compared to carriers of altered *TP53*.

Key words: *PTEN*, *TP53*, therapy response, survival, breast cancer