13th INTERNATIONAL CONGRESS OF THE SERBIAN SOCIETY OF TOXICOLOGY

&

1st TOXSEE REGIONAL CONFERENCE

Present and Future of toxicology: Challenges and opportunities

Удружење токсиколога Србије
Serbian Society of Toxicology

10 - 12 May, 2023 Belgrade

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ABSTRACT BOOK

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DEAR COLLEAGUES, DEAR FRIENDS,

We are delighted to greet you on the **13th International Congress of the Serbian Society of Toxicology & 1. TOXSEE Regional Conference - Present and Future of toxicology: challenges and opportunities**, organized in Belgrade from 10-12 May 2023.

Five years after our last international Congress we gathered in Belgrade, to further promote contemporary toxicology, in the broadest sense of meaning, as a response to the new challenges requiring innovative approaches and solutions, as it is understood in the third decade of the XXI century.

Initial concept, to blend the top scientific level in toxicology with the potentials of its' use in broad array of clinical and other domains, proved to be right. Line-up of more than 70 first class international and regional faculties as well as best Serbian scientists and toxicology professionals in all related domains fully justify the approach. Moreover, interest and presence of more than 250 colleagues from Serbia and region witness that our professional community has recognized the approach taken and shown vast interest.

The Serbian Society of Toxicology is committed to innovation and creativity in research and education, in cooperation with collegial associations and institutions in Serbia and abroad. As a regional leader, we developed and inaugurated the regional brand TOXSEE, with the idea to gather as much as possible expertise and know-how from the region and Europe, to capture knowledge, share experience and exchange practical skills with colleagues who deal with toxicology problems daily.

Time imposes on us the need to integrate science, top knowledge and daily practice in a quality and efficient way, to contribute to the better health of the society as a whole in the most purposeful manner. Therefore, a thematic and functional connections with domains of emergency medicine, general medicine, paediatrics, ecology, in addition to already standard toxicological disciplines i.e. clinical, forensic, occupational, and experimental toxicology have been enhanced.

We are glad to host you in a pleasant atmosphere of Belgrade in mid-May, to benefit from the attractive and dynamic program, exchange knowledge, and, equally important, to refresh existing and establish new contacts with colleagues and friends, while enjoying our hospitality and cherish the moment in one of the best partying cities of Europe.

YOU ARE MOST WELCOME!!!

Prof. dr Petar Bulat
- *President of the STC*
- *President of the 13th STC Congress*

Prof. dr Biljana Antonijević
- *President of the CSC of the 13th STC Congress*

Prof. dr Predrag Vukomanović
- *President of the COC of the 13th STC Congress*

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CONGRESS PROGRAM

IN VITRO TOXICOLOGY

SULFORAPHANE AFFECTS MORPHOLOGICAL CHANGES AND CELL VIABILITY OF COLON CANCER CELLS: P53 MUTATION-DEPENDENT EFFECT

Ana Đurić[1], Tatjana Srdić-Rajić[1], Dragica Božić[2], Katarina Baralić[2], Aleksandar Pavić[3], Danijela Đukić-Ćosić[2]

1 Department of experimental oncology, Institute for oncology and radiology of Serbia, Belgrade, Serbia
2 University of Belgrade – Faculty of pharmacy, Department of toxicology "Akademik Danilo Soldatović", Belgrade, Serbia
3 Institute of molecular genetics and genetic engineering, University of Belgrade, Belgrade, Serbia

Colorectal carcinoma (CRC) is an increasing cause of morbidity and mortality worldwide. Among biologically active compounds which have been shown to exert cytotoxic effects on human cancer cells, including CRC, is sulforaphane (SFN), an isothiocyanate compound extracted from cruciferous vegetables, especially broccoli. This in vitro study aimed to investigate the effect of SFN on the growth of human CRC cells and its dependency on the expression of p53. Two human CRC cell lines: HT-29 (a p53 mutated line) and HT-116 (a p53 wild-type line) were treated with SFN at concentrations of 0, 4, 8, 16, and 32 μmol/L for 72 h to test its anticancer effect.

Results indicated that SFN induced cell morphological changes and decreased the total number of viable cells. Treatment of CRC cells with SFN for 72 h resulted in moderate dose-dependent cytotoxicity. HCT-116 cells, with a p53-wt, were more sensitive (IC50 = 8.41 μM) than p53-mutated HT-29 cells (IC50 = 24.83 μM). These results indicate that SFN exhibits the anticancer effect against CRC cells in p53 mutation-dependent manner (Serbia-China project: 451-03-1203/2021-09).

KEY WORDS: colorectal carcinoma, sulforaphane, cell viability, p53 mutation

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