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Poster presentation

EFFECT OF NON-CYTOTOXIC DOSES OF CADMIUM ON THE B16 MELANOMA CELL LINE

Milan Marković¹, Katarina Marković¹, Ivana Mirkov², Dina Mileusnić², Sanja Mijatović¹, Danijela Maksimović-Ivanić¹, Sandra Popov-Aleksandrov²

¹*Institute for Biological Research "Siniša Stanković", National Institute of The Republic of Serbia, Department of Immunology, University of Belgrade, Serbia*

¹*Institute for Biological Research "Siniša Stanković", National Institute of The Republic of Serbia, Department of Ecology, University of Belgrade, Serbia*

Cadmium (Cd) is one of the most cytotoxic agents and environmental contaminants, which can cause serial health problems in various organs such as liver, kidney, testis, bone, nervous tissue and immune system. Furthermore, Cd is classified as a human and animal carcinogen agent. Despite the fact that Cd accumulates in the skin, there is a lack of evidence about its involvement in skin cancer biology. Skin cancer is one of the most common cancers worldwide, with melanoma as the most lethal type. Based on that, we set up the study to examine the effect of cadmium on the B16 melanoma cell line, measuring viability by MTT and crystal violet (CV) tests, proliferation rate (CFSE), ROS production (DHR), migration (scratch test) and adhesion on matrigel. The results showed that non-cytotoxic doses of cadmium (ranging from 0,3-2,5 μ M) increased viability, proliferation, and migration of B16 cells, while at the same time slightly promoted ROS production. Otherwise, pronounced oxidative stress induced by higher doses (ranging from 5-20 μ M) led to cell death. Summary, these results showed that low doses of cadmium could upregulate B16 melanoma cell line growth and migration probably through moderate ROS/RNS generation and thus their ability to modulate relevant signaling pathways involved in cancer progression. Considering that, underlying mechanisms of Cd impact on melanoma cell lines proliferation, migration and invasiveness needs to be clarified *in vitro*, as well as its relevance for *in vivo* system. The work is supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia, Grant #173013 and #173039