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### **Research interests: Medical biotechnologies and epigenetics**

Field of interest mainly focuses on understanding the changes produced along different cell signaling pathways following exposure to various agents from the extracellular environment (ex. nanomaterials, epigenetic inhibitors, cytostatic drugs etc). Using a variety of cell types as model systems and involving a number of functional studies, molecular biology techniques, flow cytometry and cellular imaging approaches, disturbances that occur in the cell in response to the action of various factors, potentially disruptive is investigated, in an attempt to understand their implications for human health.

Interest in the environmental factor effects is not limited to *in vitro* studies, but extends to various pollutants that can affect human populations. In this respect the work done in the project TE 181/2015, is trying to decipher the genetic and epigenetic connection between environmental pollutants, chronic kidney diseases and cancer.

### **Scientific publications**

1. **Ivan A**, Herman H, Balta C, Hadaruga DI, Mihali CV, Ardelean A, Hermenean A, Berberis vulgaris extract/ $\beta$ -cyclodextrin complex increases protection of hepatic cells via suppression of apoptosis and lipogenesis pathways, *Experimental and Therapeutic Medicine*, In Press
2. Oprean C, Borcan F, Pavel I, Dema A, Danciu C, Soica C, Dehelean C, Nicu A, Ardelean A, Cristea M, **Ivan A**, Tatu C, Bojin F In Vivo Biological Evaluation of Polyurethane Nanostructures with Ursolic and Oleanolic Acids on Chemically-induced Skin Carcinogenesis, *In Vivo*. 2016 09-10; 30(5):633-8.
3. Camelia Oprean, Marius Mioc, Erzsébet Csányi, Rita Ambrus, Florina Bojin, Calin Tatu, Mirabela Cristea, **Alexandra Ivan**, Corina Danciu, Cristina Dehelean, Virgil Paunescu, Codruta Soica, Improvement of ursolic and oleanolic acids' antitumor activity by complexation with hydrophilic cyclodextrins, *Biomedicine & Pharmacotherapy*, Volume 83, October 2016, Pages 1095–1104, <http://www.sciencedirect.com/science/article/pii/S0753332216308599>
4. Anghel, C.Cotoraci, **A. Ivan** , M.Suciu, H.Herman, C.Balta , L. Nicolescu, T. Olariu , Z. Galajda, A.Ardelean, A.Hermenean Chrysin attenuates cardiomyocyte apoptosis and

- loss of intermediate filaments in a mouse model of mitoxantrone cardiotoxicity, *Histology and hystopathology*, 2015, 30, 1465-1475, DOI: 10.14670/HH-11-641 (IF 2.10)
5. Daniela Elena Ilie, Ada Cean, Ludovic Toma Czyszter, Dinu Gavojdian, **Alexandra Ivan**, Szilvia Kusza Microsatellite and Mitochondrial DNA Study of Native Eastern European Cattle Populations: The Case of the Romanian Grey, *PLOS ONE*, 2015, 10/10(9) | DOI:10.1371/journal.pone.0138736 (IF 3,23)
  6. **Alexandra Ivan**, Ordodi, V, Ada Cean, Daniela E. Ilie, Carmen Panaitescu and Gabriela Tănasie Comparative study of the differentiation potential of rat bone marrow mesenchymal stem cells and rat muscle-derived stem cells, *Arch. Biol. Sci., Belgrade*, 65 (4), 1307-1315, 2013
  7. Nicolae Pacala, **Alexandra Ivan**, Ada Cean, 2012, Vitrification of mice embryos in different developmental stages using four vitrification methods, *Biotechnology and Biotechnological Equipment*, 2012, 26(5),3324-3328,
  8. **Alexandra Ivan (Boleman)**, Gabriela Tănasie, Atena Gălușcan, Simona Anghel, Mirabela Cristea, Florina Maria Bojin, Carmen Panaitescu Virgil Păunescu, Studies regarding the in vitro wound healing potential of mouse dental pulp stem like progenitor cells, *Biotechnology and Biotechnological Equipment*, 2012, 26(1),2781-2785,
  9. Nicolae Păcală , Ioan Bencsik, Dorel Dronca, Ioan Petroman, Cornelia Petroman, Ada Cean, Valeriu, Caraba, **Alexandra Ivan (Boleman)**, Possibilities of reducing the variability of the development stages and the quality variability of the embryos obtained from embryo donor cows, *Journal of Food, Agriculture & Environment Vol.9 (1): 219 – 221, 2011,*

### **Affiliations**

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