

Ioannis P. Trougakos, Ph.D.



Position: Assistant Professor of *Cell Biology & Electron Microscopy*

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Current Research Interests:

- Cellular-molecular biology of ageing and age-related diseases (mainly cancer).
- Molecular chaperones, proteolytic systems.
- Regulation of cell cycle and death, cell responses to DNA damage.
- Tumour suppressors, oncogenes and biomedical applications.

Short Curriculum Vitae:

Dr. Ioannis Trougakos obtained his Ph.D. in Cellular & Developmental Biology from the National & Kapodistrian University of Athens (NKUA), Greece. He has worked as Research Scientist at EMBL, Germany, at the Centro De Biologia Molecular "Severo Ochoa", Spain and at the National Hellenic Research Foundation (NHRF), Athens, Greece. He was also a research visitor at EMBL (genome-wide microarrays) and at the Netherlands Cancer Institute (NKI-AVL) (protein purification and crystallography). He was elected Research Lecturer at NHRF and recently (June, 2009) was appointed Assistant Professor at the Department of Cell Biology & Biophysics, Faculty of Biology, NKUA, where he leads the group of "Molecular-Cellular Ageing & Carcinogenesis". Dr. Trougakos has received post-doctoral fellowships from the EU and the Scholarship Foundation of the Hellenic State; has participated in many international practical courses (EMBO, FEBS), has been honoured with various awards and he was an invited lecturer in international conferences. He teaches in post-graduate M.Sc. or Ph.D. courses at the Faculty of Biology and the Medical School of NKUA, he is a member of several Scientific Societies; has participated as a senior researcher in several EU research projects; serves as a reviewer in numerous international journals and he is an Editorial Board member of "Journal of Ageing Research" and "Biogerontology". Dr Trougakos was a member of the Scientific Committee for the "12th Congress of the International Association of Biomedical Gerontology (IABG)", co-organized the "5th Workshop on Apolipoprotein J/Clusterin" and was appointed reviewer for the "8th IEEE International Conference on Bioinformatics and Bioengineering (BIBE)". He was Associate member of the EU Grant "Link-Age", while currently he serves as national representative and member of the Management Committee of the EU COST Actions "Cancer and Control of Genomic Integrity", and "Synthetic Probes for Chemical Proteomics and Elucidation of Biosynthetic Pathways". He is also a nominated member of the Management Committee of the EU COST Action "Chemistry of non-enzymatic protein modification – modulation of protein structure and function". Dr Trougakos was invited to participate in panels of the "WhyWeAge - A road map for molecular Biogerontology" EU project; has been honoured with research grants and he is Deputy Coordinator of the EU grant "INsPiRE" (2011-2014, FP7 programme CAPACITIES-REGPOT). He has published several articles in high-ranking journals, chapters in international books and he co-authors an academic book. Finally, a link with RTD performers or SMEs has been established following the presentation of two patents related to an Apolipoprotein J/Clusterin ELISA method and the development of RNAi probes targeting cancer related genes.

Selected recent Publications:

- Sideridou M, Zakopoulou R, Evangelou K, Liontos M, Kotsinas A, Rampakakis E, Gagos S, Kahata K, Grabusic K, Gkouskou K, **Trougakos IP**, Kolettas E, Georgakilas AG, Volarevic S, Eliopoulos AG, Zannis-Hadjopoulos M, Moustakas A, Gorgoulis VG. (2011). Cdc6 expression represses E-cadherin transcription and activates adjacent replication origins. *J. Cell Biol.* 195, 1123-1140.
- Leskov KS, Araki S, Lavik JP, Gomez J, Gama V, Gonos ES, **Trougakos IP**, Matsuyama S, Boothman DA (2011). Crm1-Mediated Regulation Of Nuclear Clusterin (nCLU), An Ionizing Radiation-Stimulated, Bax-Dependent Pro-Death Factor. *J. Biol. Chem.* 286, 40083-40090.
- Antonelou MH, Kriebardis AG, Stamoulis KE, **Trougakos IP**, Papassideri I (2011). Apolipoprotein J/Clusterin in Human Erythrocytes is involved in the Molecular Process of Defected Material Disposal during Vesiculation. *PLoS ONE* e26033.
- Antonelou MH, Kriebardis AG, Stamoulis KE, **Trougakos IP**, Papassideri I (2011). Apolipoprotein J/Clusterin is a Novel Structural Component of Human Erythrocytes and a Biomarker of Cellular Stress and Senescence. *PLoS ONE* e26032.
- Christodoulou A, Kostakis IK, Kourafalos V, Pouli N, Marakos P, **Trougakos IP**, Tsitsilonis OE. (2011). Design, synthesis and antiproliferative activity of novel aminosubstituted benzothiopyranoisindoles. *Bioorg Med Chem Lett.* 21, 3110-3112.
- **Trougakos IP**, Chondrogianni N, Amarantos I, Blake J, Schwager C, Wirkner U, Ansorge W, Gonos ES. (2010). Genome-wide transcriptome profile of the human osteosarcoma Sa OS and U-2 OS cell lines. *Cancer Genet Cytogenet.* 196, 109-1418.
- Zhong B, Sallman DA, Gilvary DL, Pernazza D, Sahakian E, Fritz D, Cheng JQ, **Trougakos I**, Wei S, Djeu JY. (2010). Induction of Clusterin by AKT--Role in Cytoprotection against Docetaxel in Prostate Tumor Cells. *Mol. Cancer Ther.* 9, 1831-1841.
- Balantinou E, **Trougakos IP**, Chondrogianni N, Margaritis LH, Gonos ES. (2009). Transcriptional and posttranslational regulation of clusterin by the two main cellular proteolytic pathways. *Free Rad. Biol. Med.* 46, 1267-1274.
- **Trougakos IP**, Djeu JY, Gonos ES, Boothman DA. (2009). Advances and challenges in Basic and Translational Research on Clusterin. *Cancer Res.* 69, 403-406.
- **Trougakos IP**, Gonos ES. (2009). Oxidative stress in malignant progression: The role of Clusterin, a sensitive cellular biosensor of free radicals. *Adv. Cancer Res.* 104, 171-210.
- **Trougakos IP**, Lourda M, Antonelou MH, Kletsas D, Gorgoulis VG, Papassideri IS, Zou Y, Margaritis LH, Boothman DA, Gonos ES. (2009). Intracellular Clusterin inhibits mitochondrial apoptosis by suppressing p53-activating stress signals and stabilizing the cytosolic Ku70-Bax protein complex. *Clinical Cancer Res.* 15, 48-59.
- Chondrogianni N, **Trougakos IP**, Kletsas D, Chen QM, Gonos ES. (2008). Partial proteasome inhibition in human fibroblasts triggers accelerated M1 senescence or M2 crisis depending on the p53 and Rb status. *Aging Cell* 7, 717-732.
- Lourda M, **Trougakos IP**, Gonos ES. (2007). Development of resistance to chemotherapeutic drugs in human osteosarcoma cell lines largely depends on up-regulation of clusterin/apolipoprotein J. *Int. J. Cancer* 120, 611-622.
- **Trougakos IP**, Saridaki A, Panayotou G, Gonos ES. (2006). Identification of differentially expressed proteins in senescent human embryonic fibroblasts. *Mech. Ageing Dev.* 127, 88-92.
- **Trougakos IP**, Lourda M, Agiostratidou G, Kletsas D, Gonos ES. (2005). Differential effects of Clusterin/Apolipoprotein J on cellular growth and survival. *Free Rad. Biol. Med.* 38, 436-449.
- **Trougakos IP**, So A, Jansen B, Gleave ME, Gonos ES. (2004). Silencing expression of the clusterin/apolipoprotein j gene in human cancer cells using small interfering RNA induces spontaneous apoptosis, reduced growth ability, and cell sensitization to genotoxic and oxidative stress. *Cancer Res.* 64, 1834-1842.
- Chondrogianni N, Stratford FL, **Trougakos IP**, Friguet B, Rivett AJ, Gonos ES. (2003). Central role of the proteasome in senescence and survival of human fibroblasts: induction of a senescence-like phenotype upon its inhibition and resistance to stress upon its activation. *J. Biol. Chem.* 278, 28026-28037.

Patents:

- Gonos E.S. & **Trougakos I.P.** (2002). "A new method and kit for the quantitative measurement of the Clusterin/Apolipoprotein J levels in serum". Hellenic Industrial Property Organization (No: 1004477, International itemization: G01N 33/68, C12Q 1/28).
- Jansen B., Gleave M., **Trougakos I.P.**, Gonos E.S., Signaevsky M. & Beraldi E. (2003). "RNAi probes targeting cancer-related proteins". United States of America provisional application (No: 60/472,387), United States of America Patent application (No: 10/646,436).