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Faculty of Pharmacy
Department of Medical Biochemistry

Scientific field (Frascati Manual)

Medicinal chemistry

Brief description of expertise

Investigation of genetic and acquired risk factors linked to development of atherosclerosis-related diseases; exploring of genetic polymorphisms associated with inflammation, oxidative stress and dyslipidemia; evaluation of genetic polymorphism of enzymes involved in metabolism of xenobiotics; studies of gene expression of specific genes involved in inflammation and atherosclerosis development using Real-time PCR method; advanced lipid status assessment – measuring of lipid transfer proteins, lipoprotein's receptors and their regulators, as well as electrophoretic characterization of lipoprotein subclasses; investigation of lipid status in patients with subclinical hypothyroidism; estimation of redox balance; research on oxidative stress and antioxidative defence markers; evaluation of clinical and analytical characteristics of markers of systemic oxidative stress (oxidatively modified DNA lesions and mechanisms of reparation); assessment of antioxidative capacity of bilirubin and uric acid; measuring of adipocytokines and evaluation of their relationships with lipid status, oxidative stress and inflammatory markers; structural and functional analysis of molecular markers of complex and inherited diseases (chronic obstructive pulmonary disease, asthma, diabetes, malignant diseases, alpha-1-antitrypsin deficiency); determination of cholesterol synthesis and absorption markers by GC-FID and LC-MS/MS methods; monitoring the status of vitamin D and its metabolites and determination of their relationship with the occurrence, and development of malignant diseases as well as metabolic disorders; estimation of biomarkers as possible diagnostic, prognostic and predictive indicators of cardiovascular diseases, malignancies, diabetes and other pathological conditions (chronic kidney disease, preeclampsia, Gaucher disease, disturbances in hypothalamic-pituitary-adrenal axis, thyroid gland disorders); economic evaluation (cost-effectiveness analyses) of traditional and new diagnostic markers, new diagnostic procedures and laboratory tests; development of economic models for inclusion of new biomarkers in risk prediction for various diseases; estimation of butyrylcholinesterase activity as a predictor of mortality in hemodialysis patients; evaluation of novel technologies in hematology and hemostasis; evaluation and clinical application of new hematological indices; hypercoagulable states and thrombosis; clinical use of coagulation activation markers; antiphospholipid syndrome – diagnosis and hematological complications; laboratory control of anticoagulant therapy; use of new anticoagulants; following of therapy and complications in hemophilia; biochemistry of sport; hematology of sport.

Keywords

atherosclerosis; inflammation; oxidative stress; dyslipidemia; biomarkers; gene expression; genetic polymorphism; cost-effectiveness analyses; butyrylcholinesterase; laboratory technologies in hematology and hemostasis; hypercoagulable states; biochemistr

Realized and current projects

A) NATIONAL PROJECTS

Title	Project ID	Funding source	Duration
Interactive role of dyslipidemia, oxidative stress and inflammation in atherosclerosis and other diseases: genetic and biochemical markers	Medicine 175035	Ministry of education, science and technological development, Republic of Serbia	2011-2015.

Title	Project ID	Funding source	Duration
Biomarkers of organ damage and dysfunction	Medicine 175036	Ministry of education, science and technological development, Republic of Serbia	2011-2015.

B) INTERNATIONAL PROJECTS

Title	Project ID	Funding source	Duration
COST Scientific Domain: Biomedicine and Molecular Biosciences; Action: HDL: From Biological Understanding to Clinical Exploitation"	BM0904	European research programme COST, European Cooperation in Science and Technology	2011-2015.
Novel diagnostic and therapeutic approaches to complex genetic disorders.	CIII-HR-0611-02-1213	CEEPUS III (Central European Exchange Program for University Studies)	2013-2015.
COST Scientific Domain: Biomedicine and Molecular Biosciences; Action: Lipid Peroxidation Associated Disorders: Role of oxidative stress and dyslipidemia in atherosclerosis (2008-2011)	LPO (B35)	European research programme COST, European Cooperation in Science and Technology	2008-2011.

Industry group (according to "Gazette RS", No. 54/10)

Other professional, scientific and technical activities n.e.c.

Higher education

Staff list within the unit

Name	Last name	Teaching/scientific title
Slavica	Spasic	Professor Emeritus
Zorana	Jelic-Ivanovic	Professor
Marina	Stojanov	Professor
Vesna	Spasojevic-Kalimanovska	Professor

Name	Last name	Teaching/scientific title
Svetlana	Ignjatovic	Professor
Violeta	Dopsaj	Professor
Aleksandra	Topic	Professor
Miroljub	Petrovic	Professor
Jelena	Kotur-Stevuljevic	Associate Professor
Natasa	Bogavac-Stanojevic	Associate Professor
Dusko	Mirkovic	Associate Professor
Aleksandra	Zeljkovic	Assistant Professor
Aleksandra	Stefanovic	Assistant Professor
Jelena	Vekic	Assistant Professor
Ana	Ninic	Assistant Professor
Miron	Sopic	Teaching Assistant
Jasmina	Ivanisevic	Teaching Assistant
Jelena	Joksic	Teaching Assistant
Snezana	Jovicic	Teaching Assistant
Neda	Milinkovic	Teaching Assistant
Tamara	Gojkovic	Teaching Assistant
Milica	Miljkovic	Teaching Assistant
Miljan	Savkovic	Teaching Assistant
Sandra	Vladimirov	Research assistant
Marija	Saric	Research assistant