

PERSONAL INFORMATION **Nada Bozina**WORK EXPERIENCE

- 1979- 1983 **MD, Residency in Internal Medicine**
University Hospital Centre Zagreb (Croatia)
- 1983- 1987 **Laboratory for Cell and Tissue Culture**
Centre for Biomedical Research, Zagreb (Croatia)
- 1987- 1997 **Head of Laboratory for Cell and Tissue Culture**
Centre for Biomedical Research, Zagreb (Croatia)
- 1997- 2011 **Head of Division of Pharmacogenomics**
Clinical Institute of Laboratory Diagnostics, University Hospital Center, Zagreb and Zagreb University School of Medicine, Department of Pharmacology (Croatia)
- 2008- 2013 **Associate Professor**
School of Medicine University of Zagreb, Department of Pharmacology (Croatia)
Graduate and Postgraduate Programs in Pharmacology, Toxicology and Clinical chemistry: Pharmacogenetics and Therapy Individualization course director of elective graduate course; Pharmacogenomics head of postgraduate course.
- 2008- Present **Visiting Professor**
Faculty of Pharmacy and Biochemistry, University of Zagreb (Croatia)
Graduate and Postgraduate Programs in Pharmacogenetics/Pharmacogenomics, Therapy Individualization
- 2011- Present **Head of the Clinical Unit for Pharmacogenomics and Therapy Individualization**
University Hospital Centre Zagreb, Department of Laboratory Diagnostics (Croatia)
In the field of Pharmacogenetics/Pharmacogenomics we provide services to University Hospital Centre Zagreb, industry or other researchers for genotyping of metabolic enzymes of phase I P450CYP: CYP2C9, CYP2C19, CYP2D6, CYP3A4/5, DPYD; phase II enzymes: NAT2, TPMT, UGT1A1; drug transporters: ABCB1, ABCC2, ABCG2, SLCO1B1; neurotransmitter transporters: SERT, DAT; receptors. 5-HT_{2c}, DRD₂, AT_{1R}; VKORC1.
- 2013- Present **Associate Professor**
School of Medicine University of Zagreb, Department of Pharmacology (Croatia)
Graduate and Postgraduate Programs in Pharmacology, Toxicology and Clinical chemistry: Pharmacogenetics and Therapy Individualization course head of elective graduate course; Pharmacogenomics head of postgraduate course.

EDUCATION AND TRAINING

- 1972- 1977 **medical doctor (MD)**

School of Medicine University of Zagreb (Croatia)
general practitioner skills

- 1978- 1980 **master degree (MSc)**
School of Medicine University of Zagreb (Croatia)
Biochemistry
- 1985- 1985 **researcher**
Imperial College London, Royal Postgraduate Medical School - Hammersmith (United Kingdom)
monoclonal antibodies
- 1986- 1986 **researcher**
The Hatfield Polytechnic, University of Hertfordshire (United Kingdom)
molecular biology
- 1990- 1991 **Skills in molecular biology technique**
University of California Davis (United States)
Skills in molecular biology technique
- 2001- 2005 **PhD**
School of Medicine University of Zagreb (Croatia)
Pharmacogenetics/Pharmacogenomics in personalized medicine
thesis title:
"The Role of Pharmacogenetic Variations in the Therapy of Depression"

ADDITIONAL INFORMATION

- Expertise** The role of Pharmacogenetics and Pharmacogenomics in the field of therapy individualization
- Publications**
1. Turner RM, Radman I, Bozina N, Alfirevic A. Pharmacogenetics and statin-related myopathy: what do we know? *Pharmacogenomics*. 2020;21(12):821-825.
 2. Ganoci L, Trkulja V, Ivkovi M, Boina T, agud M, Lovri M, Boina N. ABCB1, ABCG2 and CYP2D6 polymorphism effects on disposition and response to long-acting risperidone. *Prog Neuropsychopharmacol Biol Psychiatry*. 2021 Jan 10;104:110042. doi: 10.1016/j.pnpbp.2020.110042. Epub 2020 Jul 17. PMID: 32682874.
 3. Boina N, Vrki Kirhmajer M, imievi L, Ganoci L, Miroevi Skvrce N, Klarica Domjanovi I, Mep I. Use of pharmacogenomics in elderly patients treated for cardiovascular diseases. *Croat Med J*. 2020;61(2):147-158.
 4. Kuruc Poje D, Boina N, imievi L, abi I. Severe hyperglycaemia following pazopanib treatment: The role of drug-drug-gene interactions in a patient with metastatic renal cell carcinoma-A case report. *J Clin Pharm Ther*. 2020;45(4):628-631.
 5. Skvrce NM, Krivokapi S, Boina N. Implementation of pharmacogenomics in product information. *Pharmacogenomics*. 2020;21(7):443-448.
 6. Zivkovic M, Mihaljevic-Peles A, Muck-Seler D, Sagud M, Ganoci L, Vlatkovic S, Tudor L, Pivac N, Bozina N. Remission Is not Associated with DRD2 rs1800497 and DAT1 rs28363170 Genetic Variants in Male Schizophrenic Patients after 6-months Monotherapy with Olanzapine. *Psychiatr Danub*. 2020;32(1):84-91.
 7. Samardzic J, Bozina N, Skoric B, Ganoci L, Krpan M, Petricevic M, Pasalic M, Bozina T, Pavasovic S, Cikes M, Milicic D. Impact of Continuous P2Y12 Inhibition Tailoring in Acute Coronary Syndrome and Genetically Impaired Clopidogrel Absorption. *J Cardiovasc Pharmacol*. 2020;75(2):174-179.
 8. Bosnjak Kuharic D, Bozina N, Ganoci L, Makaric P, Kekin I, Prpic N, Bozina T, Rojnic Kuzman M.

- Association of HSPA1B genotypes with psychopathology and neurocognition in patients with the first episode of psychosis: a longitudinal 18-month follow-up study. *Pharmacogenomics J.* 2020 ;20(5):638-646.
9. Pejanovic-Skobic N, Markovic I, Bozina N, Basic S. Lack of association of SCN2A rs17183814 polymorphism with the efficacy of lamotrigine monotherapy in patients with focal epilepsy from Herzegovina area, Bosnia and Herzegovina. *Epilepsy Res.* 2019;158:106221. doi: 10.1016/j.epilepsyres.2019.106221.[Epub ahead of print]
10. Boina N, Spori I, Boina T, Klarica-Domjanovi I, Tvrdei A, Spori D. Pharmacogenetics and the treatment of epilepsy: what do we know? *Pharmacogenomics.* 2019;20(15):1093-1101.
11. Rojnic Kuzman M, Bosnjak Kuharic D, Ganoci L, Makaric P, Kekin I, Rossini Gajsak L, Prpic N, Bozina T, Bajic Z, Bozina N. Association of CNR1 genotypes with changes in neurocognitive performance after eighteen-month treatment in patients with first-episode psychosis. *Eur Psychiatry.* 2019 Sep;61:88-96.
12. Jaksic N, abi Dananovi E, Aukst Margetic B, Rudan D, Cima Franc A, Bozina N, Feri Boji E, Kuukali S, Dubur Kulenovi A, Marjanovi D, Avdibegovi E, Babi D, Agani F, Kuukali A, Bravo Mehmedbai A, Kravic N, Muminovi Umihani M, Sinanovi O, Babi R, Pavlovi M, Haxhibeqiri S, Goci Uka A, Hoxha B, Haxhibeqiri V, Ziegler C, Wolf C, Warrings B, Domschke K, Deckert J, Jakovljevic M. A Candidate Gene Association Study of FKBP5 and CRHR1 Polymorphisms in Relation to War-Related Posttraumatic Stress Disorder. *Psychiatr Danub.* 2019;31(2):269-275. doi: 10.24869/psyd.2019.269. PubMed PMID: 31291236.
13. Hoxha B, Goçi Uka A, Agani F, Haxhibeqiri S, Haxhibeqiri V, Sabic Džananovic E, Kucukalic S, Bravo Mehmedbasic A, Kucukalic A, Džubur Kulenovic A, Ferić Bojčić E, Marjanovic D, Kravic N, Avdibegovic E, Muminovic Umihani M, Jaksic N, Cima Franc A, Rudan D, Jakovljevic M, Babic R, Pavlovic M, Babic D, Aukst Margetic B, Bozina N, Sinanovic O, Ziegler C, Warrings B, Domschke K, Deckert J, Wolf C, Vyshka G. The Role of TaqI DRD2 (rs1800497) and DRD4 VNTR Polymorphisms in Posttraumatic Stress Disorder (PTSD). *Psychiatr Danub.* 2019 Jun;31(2):263-268.
14. Goçi Uka A, Agani F, Blyta A, Hoxha B, Haxhibeqiri S, Haxhibeqiri V, Sabic Džananovic E, Kucukalic S, Bravo Mehmedbasic A, Kucukalic A, Džubur-Kulenovic A, Ferić Bojčić E, Marjanovic D, Kravic N, Avdibegovic E, Muminovic Umihani M, Jaksic N, Cima Franc A, Rudan D, Jakovljevic M, Babic R, Pavlovic M, Babic D, Aukst Margetic B, Bozina N, Sinanovic O, Ziegler C, Warrings B, Domschke K, Deckert J, Wolf C. Role of the Allelic Variation in the 5-Hydroxytryptamine Receptor 1A (HTR1A) and the Tryptophan Hydroxylase 2 (TPH2) Genes in the Development of PTSD. *Psychiatr Danub.* 2019;31(2):256-262.
15. Haxhibeqiri V, Haxhibeqiri S, Topciu-Shufta V, Agani F, Goci Uka A, Hoxha B, Džubur Kulenovic A, Jakovljević M, Avdibegovi E, Kravić N, Muminović Umihani M, Sinanović O, abi Dananović E, Kuukali A, Kuukali S, Bravo Mehmedbai A, Aukst Margetić B, Jaki N, Cima Franc A, Rudan D, Pavlović M, Babi R, Feri Boji E, Marjanović D, Boina N, Ziegler C, Wolf C, Warrings B, Domschke K, Deckert J, Babi D. The Association of Catechol-O-Methyl-Transferase and Interleukin 6 Gene Polymorphisms with Posttraumatic Stress Disorder. *Psychiatr Danub.* 2019;31(2):241-248.
16. Muminovic Umihanic M, Babic R, Kravic N, Avdibegovic E, Džubur Kulenovic A, Agani F, Jakovljevic M, Babic D, Kucukalic A, Kucukalic S, Sabic Džananovic E, Bravo Mehmedbasic A, Goci Uka A, Haxhibeqiri S, Hoxha B, Haxhibeqiri V, Aukst Margetic B, Jaksic N, Cima Franc A, Rudan D, Pavlović M, Ferić Bojčić E, Marjanović D, Bozina N, Ziegler C, Wolf C, Warrings B, Domschke K, Deckert J, Sinanović O. Associations between Polymorphisms in the Solute Carrier Family 6 Member 3 and the Myelin Basic Protein Gene and Posttraumatic Stress Disorder. *Psychiatr Danub.* 2019;31(2):235-240
17. Feri Boji E, Kuukali S, Dubur Kulenovi A, Avdibegovi E, Babi D, Agani F, Jakovljević M, Kuukali A, Bravo Mehmedbai A, abi Dananović E, Kravic N, Babi R, Pavlović M, Aukst Margetic B, Jaksic N, Cima Franc A, Rudan D, Haxhibeqiri S, Goci Uka A, Hoxha B, Haxhibeqiri V, Muminović Umihani M, Sinanović O, Boina N, Ziegler C, Wolf C, Warrings B, Domschke K, Deckert J, Marjanović D. Associations of Gene Variations in Neuropeptide Y and Brain Derived Neurotrophic Factor Genes with Posttraumatic Stress Disorder. *Psychiatr Danub.* 2019;31(2):227-234.
18. Kuukali S, Feri Boji E, Babi R, Avdibegovi E, Babi D, Agani F, Jakovljević M, Kuukali A, Bravo

- Mehmedbai A, abi Dananovi E, Marjanovi D, Kravic N, Pavlovi M, Aukst Margetic B, Jaksic N, Cima Franc A, Rudan D, Haxhibeqiri S, Goci Uka A, Hoxha B, Haxhibeqiri V, Muminovi Umihani M, Sinanovi O, Boina N, Ziegler C, Wolf C, Warrings B, Domschke K, Deckert J, Dubur Kulenovi A. Genetic Susceptibility to Posttraumatic Stress Disorder: Analyses of the Oxytocin Receptor, Retinoic Acid Receptor-Related Orphan Receptor A and Cannabinoid Receptor 1 Genes. *Psychiatr Danub.* 2019;31(2):219-226.
19. Kravi N, abi Dananovi E, Muminovi Umihani M, Dubur Kulenovi A, Sinanovi O, Jakovljevi M, Babi D, Kuukali A, Agani F, Kuukali S, Bravo Mehmedbai A, Goci Uka A, Haxhibeqiri S, Haxhibeqiri V, Hoxha B, Aukst Margeti B, Jaki N, Cima Franc A, Rudan D, Pavlovi M, Babi R, Feri Boji E, Marjanovi D, Boina N, Ziegler C, Wolf C, Warrings B, Domschke K, Deckert J, Avdibegovi E. Association Analysis of Maa and Slc6a4 Gene Variation in South East European War Related Posttraumatic Stress Disorder. *Psychiatr Danub.* 2019;31(2):211-218.
20. Rojnic Kuzman M, Makaric P, Bosnjak Kuharic D, Kekin I, Rossini Gajsak L, Boban M, Bozina N, Bozina T, Celic Ruzic M, Darmopil S, Filipcic I, Ganoci L, Hladnik A, Madzarac Z, Malojcic B, Mihaljevic Peles A, Mueller DJ, Ostojic D, Petanjek Z, Petrovic R, Vogrinc Z, Savic A, Silic A, Sagud M, Zivkovic M, Bajic Z. Integration of complementary biomarkers in patients with first episode psychosis: research protocol of a prospective follow up study. *Psychiatr Danub.* 2019;31(2):162-171
21. Markovic I, Pejanovic-Skobic N, Bozina N, Susak Sporis I, Sporis D, Basic S. The lack of influence of IVS5-91 G>A polymorphism of the SCN1A gene on efficacy of lamotrigine in patients with focal epilepsy. *Neurol Res.* 2019;41(10):930-935.
22. Zivkovic M, Mihaljevic-Peles A, Muck-Seler D, Sagud M, Ganoci L, Vlatkovic S, Nikolac Perkovic M, Tudor L, Bozina N, Pivac N. The lack of association between COMT rs4680 polymorphism and symptomatic remission to olanzapine monotherapy in male schizophrenic patients: A longitudinal study. *Psychiatry Res.* 2019;279:389-390.
23. Kari-Juri T, Tomas, Zajc Petranovi M, Boina N, Smolej Narani N, Janijjevi B, Salihovi MP. Characterization of ADME genes variation in Roma and 20 populations worldwide. *PLoS One.* 2018;13(11):e0207671
24. Grubelic Ravi K, Pai F, Vuceli B, Brinar M, ukovi-avka S, Boina N, Krznari, Kalauz M, Bei D, Nikueva Marti T. Association of polymorphic variants in serotonin re-uptake transporter gene with Crohn's disease: a retrospective case-control study. *Croat Med J.* 2018;59(5):232-243
25. Klarica Domjanovi I, Lovri M, Trkulja V, Petelin-Gade, Ganoci L, aji I, Boina N (2018). Interaction between ABCG2 421C>A polymorphism and valproate in their effects on steady-state disposition of lamotrigine in adults with epilepsy. *Br J Clin Pharmacol.* 2018;84(9):2106-2119.
26. Bielen L, Kralj I, uri E, Vodanovi M, Boban A, Boina N. Acute kidney injury, agranulocytosis, drug-induced liver injury, and posterior reversible encephalopathy syndrome caused by high-dose methotrexate-possible role of low activity ABC and SLC drug transporters. *Eur J Clin Pharmacol.* 2018;74(9):1191-1192.
27. Vrki Kirhmajer M, Macoli arini V, imievi L, Ladi I, Putarek K, Banfi L, Boina N. Rosuvastatin-Induced Rhabdomyolysis - Possible Role of Ticagrelor and Patients' Pharmacogenetic Profile. *Basic Clin Pharmacol Toxicol.* 2018;123(4):509-518.
28. Lovri M, aji I, Petelin Gade, Klarica Domjanovi I, Boina N. Effect of antiepileptic drug comedication on lamotrigine concentrations. *Croat Med J.* 2018; 28;59(1):13-19.
29. Makar-Auperger K, Krelj K, Lovri Beni M, Radai Aumiler M, Erdelji Turk V, Boina N. Warfarin Dosing According to the Genotype-guided Algorithm is Most Beneficial in Patients With Atrial Fibrillation: A Randomized Parallel Group Trial. *Ther Drug Monit.* 2018;40(3):362-368.
30. Ziegler C, Wolf C, Schiele MA, Feric Bojic E, Kucukalic S, Sabic Džananovic E, Goci Uka A, Hoxha B, Haxhibeqiri V, Haxhibeqiri S, Kravic N, Muminovic Umihanic M, Cima Franc A, Jaksic N, Babic R, Pavlovic M, Warrings B, Bravo Mehmedbasic A, Rudan D, Aukst-Margetic B, Kucukalic A, Marjanovic D, Babic D, Bozina N,
31. Jakovljevic M, Sinanovic O, Avdibegovic E, Agani F, Dzubur-Kulenovic A, Deckert J, Domschke K. Monoamine oxidase A gene methylation and its role in Posttraumatic Stress Disorder - First evidence from the South Eastern Europe (SEE)-PTSD study. *Int J Neuropsychopharmacol.* 2018;21(5):423-432.

32. Krasniqi V, Dimovski A, Bytyqi HQ, Eftimov A, imievi L, Boina N. Genetic polymorphisms of CYP2C9, CYP2C19, and CYP3A5 in Kosovar population. *Arh Hig Rada Toksikol.* 2017;68(3):180-184.
33. Kudlek Mikulic S, Mihaljevic-Peles A, Sagud M, Bajc Janovic M, Ganoci L, Grubisin J, Kuzman Rojnic M, Vuksan Cusa B, Brada Z, Boina N. Brain-derived neurotrophic factor serum and plasma levels in the treatment of acute schizophrenia with olanzapine or risperidone: 6-week prospective study. *Nord J Psychiatry.* 2017;71(7):513-520
34. Boina N, Lali Z, Na-kegro S, Bori-Bilui A, Boina T, Katelan , Trkulja V. Steady-state pharmacokinetics of mycophenolic acid in renal transplant patients: exploratory analysis of the effects of cyclosporine, recipients' and donors' ABCC2 gene variants, and their interactions. *Eur J Clin Pharmacol.* 2017;73(9):1129-1140.
35. Knezovic A, Loncar A, Homolak J, Smailovic U, Osmanovic Barilar J, Ganoci L, Bozina N, Riederer P, Salkovic-Petrisic M. Rat brain glucose transporter-2, insulin receptor and glial expression are acute targets of intracerebroventricular streptozotocin: risk factors for sporadic Alzheimer's disease? *J Neural Transm (Vienna)* 2017;124(6):695-708.
36. Potonjak I, Liki R, imi I, Jurii Nahal D, egec I, Ganoci L, Boina N. Dapsone-induced agranulocytosis-possible involvement of low-activity N-acetyltransferase 2. *Fundam Clin Pharmacol.* 2017;31(5):580-586.
37. Ganoci L, Boina T, Miroevi Skvrce N, Lovri M, Mas P, Boina N. Genetic polymorphisms of cytochrome P450 enzymes: CYP2C9, CYP2C19, CYP2D6, CYP3A4, and CYP3A5 in the Croatian population. *Drug Metab Pers Ther.* 2017;32(1):11-21.
38. Boina N. Pharmacogenomics and pharmacovigilance (Farmakogenomika i farmakovigilancija). *Medicus.* 2017;26(1):13-22.
39. agud M, Vuksan-usa B, Boina N, Lovri M, Mihaljevi-Pele A, Kramari M. Olanzapine Long-Acting Injections After Neuroleptic Malignant Syndrome: Two Case Reports. *J Clin Psychopharmacol* 2016;36(6):733-735.
40. Mizzi C, Dalabira E, Kumuthini J, Dzimiri N, Balogh I, Baak N, Böhm R, Borg J, Borgiani P, Bozina N, Bruckmueller H, Burzynska B, Carracedo A, Cascorbi I, Deltas C, Dolzan V, Fenech A, Grech G, Kasiulevicius V, Kádai , Kuinskas V, Khusnutdinova E, Loukas YL, Macek M Jr, Makukh H, Mathijssen R, Mitropoulos K, Mitropoulou C, Novelli G, Papantoni I, Pavlovic S, Saglio G, Setric J, Stojiljkovic M, Stubbs AP, Squassina A, Torres M, Turnovec M, van Schaik RH, Voskarides K, Wakil SM, Werk A, Del Zompo M, Zukic B, Katsila T, Lee MT, Motsinger-Rief A, McLeod HL, van der Spek PJ, Patrinos GP. A European Spectrum of Pharmacogenomic Biomarkers: Implications for Clinical Pharmacogenomics. *PLoS One.* 2016;11(9):e0162866.
41. imi I, Potonjak I, Kraljikovi I, Stani Beni M, egec I, Jurii Nahal D, Ganoci L, Boina N. CYP2D6 *6/*6 genotype and drug interactions as cause of haloperidol-induced extrapyramidal symptoms. *Pharmacogenomics.* 2016;17(13):1385-9.
42. Karmeli I, Lovri J, Boina T, Merkler A, Bozina N, Sertic J. Is there any association of apolipoprotein E gene polymorphisms with metabolic syndrome in a young population of Croatian origin? *Ann Hum Biol.* 2016:1-25.
43. Ladi A, Boina N, Borzan V, Brinar M, Vuceli B, Cukovi-Cavka S. AN EPIDEMIOLOGICAL STUDY OF THIOPURINE-METHYLTRANSFERASE VARIANTS IN A CROATIAN INFLAMMATORY BOWEL DISEASE PATIENT COHORT. *Acta Clin Croat.* 2016;55(1):16-22.
44. Kulenovic AD, Agani F, Avdibegovic E, Jakovljevic M, Babic D, Kucukalic A, Kucukalic S, Džananovic ES, Mehmedbasic AB, Uka AG, Haxhibeqiri S, Haxhibeqiri V, Hoxha B, Sinanovic O, Kravic N, Muminovic M, Aukst-Margetic B, Jaksic N, Franc AC, Rudan D, Pavlovic M, Babic R, Bojic EF, Marjanovic D, Bozina N, Ziegler C, Wolf C, Warrings B, Domschke K, Deckert J. Molecular Mechanisms of Posttraumatic Stress Disorder (PTSD) as a Basis for Individualized and Personalized Therapy: Rationale, Design and Methods of the South Eastern Europe (SEE)-PTSD study. *Psychiatr Danub.* 2016;28(2):154-63.
45. Krasniqi V, Dimovski A, Domjanovi IK, Bili I, Boina N. How polymorphisms of the cytochrome P450 genes affect ibuprofen and diclofenac metabolism and toxicity. *Arh Hig Rada Toksikol.* 2016;67(1):1-8.

46. Kori M, Muri D, Badovinac S, Boina N, Rogli M, Jakopovi M, uevi B. Erlotinib-related rhabdomyolysis: the role of pharmacogenetics and drug-drug interaction. *Cancer Chemother Pharmacol* 2015;76(6):1317-9.
47. Mandic D, Bozina N, Mandic S, Samardzija M, Milostic-Srb A, Rumora L. VKORC1 gene polymorphisms and adverse events in Croatian patients on warfarin therapy. *Int J Clin Pharmacol Ther.* 2015;53(11):905-13.
48. Miroevi Skvrce N, Macoli arini V, imi I, Ganoci L, Muaeui Katanec D,Boina N. ABCG2 polymorphism as risk factor for developing adverse drug reactions in patients taking atorvastatin: a case-control study. *Pharmacogenomics* 2015;16(9):959-70.
49. upe S, Poljakovi Z, Boina T, Ljevak J, Macoli arini V, Boina N. Clinical Application of Genotype-guided Dosing of Warfarin in Patients with Acute Stroke. *Arch Med Res.* 2015;46(4):265-73.
50. Markeljevic J, Sarac H, Bozina N, Henigsberg N, Simic M, Cicin Sain L. Serotonin transporter gene polymorphisms: Relation with platelet serotonin level in patients with primary Sjogren's syndrome. *J Neuroimmunol* 2015; 282:104-9.
51. Samardzic J, Bozina N, Skoric B, Ganoci L, Petricevic M, Krpan M, Pasalic M, Milicic D. CYP2C19*2 genotype influence in acute coronary syndrome patients undergoing serial clopidogrel dose tailoring based on platelet function testing: Analysis from randomized controlled trial NCT02096419. *Int J Cardiol.* 2015;186:282-5.
52. Mitropoulou C, Fragoulakis V, Bozina N, Vozikis A, Supe S, Bozina T, Poljakovic Z, van Schaik RH, Patrinos GP. Economic evaluation of pharmacogenomic-guided warfarin treatment for elderly Croatian atrial fibrillation patients with ischemic stroke. *Pharmacogenomics* 2015;16(2):137-48.
53. Supe S, Boina N, Matijevi V, Bazina A, Mima A, Ljevak J, Alvir D, Habek M, Poljakovi Z. Prevalence of genetic polymorphisms of CYP2C9 and VKORC1 -implications for warfarin management and outcome in Croatian patients with acute stroke. *J Neurol Sci* 2014;343(1-2):30-5.
54. Bilic P, Jukic V, Vilibic M, Savic A, Bozina N. Treatment-resistant schizophrenia and DAT and SERT polymorphisms. *Gene* 2014;543(1):125-32.
55. Kao AC, Rojnic Kuzman M, Tiwari AK, Zivkovic MV, Chowdhury NI, Medved V, Kekin I, Zai CC, Lieberman JA, Meltzer HY, Bozina T, Bozina N, Kennedy JL, Sertic J, Müller DJ. Methylenetetrahydrofolate reductase gene variants and antipsychotic-induced weight gain and metabolic disturbances. *J Psychiatr Res* 2014;54:36-42.
56. Trkulja V, Lali Z, Na-kegro S, Lebo A, Grani P, Lovri M, Pasini J, Boina N. Effect of cyclosporine on steady-state pharmacokinetics of mycophenolic acid (MPA) in renal transplant recipients is not affected by the MPA formulation: analysis based on therapeutic drug monitoring. *Ther Drug Monit* 2014;36(4):456-64.
57. Zivkovi M, Mihaljevi-Peles A, Bozina N, Sagud M, Nikolac-Perkovic M, Vuksan-Cusa B, Muck-Seler D. The association study of polymorphisms in DAT, DRD2, and COMT genes and acute extrapyramidal adverse effects in male schizophrenic patients treated with haloperidol. *J Clin Psychopharmacol.* 2013;33(5):593-9.
58. Miroevic Skvrce N, Boina N, Zibar L, Bariic I, Pejnovic L, Macolic arinic V. CYP2C9 and ABCG2 polymorphisms as risk factors for developing adverse drug reactions in renal transplant patients taking fluvastatin: a case-control study. *Pharmacogenomics.* 2013;14(12):1419-31.
59. Brinar M, Cukovic-Cavka S, Bozina N, Ravic KG, Markos P, Ladic A, Cota M, Krzrnaric Z, Vucelic B. MDR1 polymorphisms are associated with inflammatory bowel disease in a cohort of Croatian IBD patients. *BMC Gastroenterol.* 2013;13:57.
60. Sporis D, Bozina N, Basi S, Lovri M, Babi T, Susak I, Markovi I. Lack of association between polymorphism in ABCC2 gene and response to antiepileptic drug treatment in Croatian patients with epilepsy. *Coll Antropol.* 2013;37(1):41-5.
61. Boina N, Pejnovi L. Pharmacogenetics in clinical practice - recommendations and guidelines. *Paediatr Croat* 2013;57(4):318-30.
62. Marusic S, Lisicic A, Horvatic I, Bacic-Vrca V, Bozina N. Atorvastatin-related rhabdomyolysis and acute renal failure in a genetically predisposed patient with potential drug-drug interaction. *Int J Clin Pharm.* 2012;34(6):825-7.

63. Sarac H, Markeljevic J, Mokrovic G, Erdeljic V, Bozina N, Cicin-Sain L. Platelet serotonin in primary Sjögren's syndrome: level and relation with disease activity. *J Neuroimmunol.* 2012;251(1-2):87-9.
64. Lovri M, Boina N, Hajnek S, Kuzman MR, Spori D, Lali Z, Boina T, Grani P. Association between lamotrigine concentrations and ABCB1 polymorphisms in patients with epilepsy. *Ther Drug Monit.* 2012;34(5):518-25.
65. Boina N, Jovanovi N, Podlesek A, Rojni Kuzman M, Kudumija Slijepevi M, Rogulji A, Dimitrovi A, Boina T, Lovri J, Ljubi H, Medved V. Suicide ideators and attempters with schizophrenia--the role of 5-HTTLPR, rs25531, and 5-HTT VNTR Intron 2 variants. *J Psychiatr Res.* 2012;46(6):767-73.
66. Karmeli I, Lovri J, Boina T, Ljubi H, Vogrinc , Boina N, Serti J. Adiponectin level and gene variability are obesity and metabolic syndrome markers in a young population. *Arch Med Res.* 2012;43(2):145-53.
67. Boina N, ukovi-avka S, upe S, Na-kegro S, imi I, Makar-Auperger K, Kovaevi I. Pharmacogenetics and adverse drug reactions-polymorphism of metabolic enzymes. *Neurol Croatica* 2012;61(Suppl.2):121-132.
68. Serti J, Boina T, Skori B, Lovri J, Slaviek J, imievi L, Jelakovi B, Boina N, Milii D, Reiner . New trends in laboratory diagnostics: biomarkers of atherosclerosis; preventive and personalized medicine. *Neurol Croatica* 2012;61(Suppl.2):137-149.
69. Spori D, Bai S, Boina N, Babi T, Hajnek S, Serti J, et al. ABCB1 gene variants as predictors of multidrug-resistant epilepsy in Croatian population. *Neurologia Croatica.* 2011;60(2):63-71.
70. Mirosevic Skvrce N, Macolic Sarinic V, Mucalo I, Krnic D, Bozina N, Tomic S. Adverse drug reactions caused by drug-drug interactions reported to Croatian Agency for Medicinal Products and Medical Devices: a retrospective observational study. *Croat Med J.* 2011;52(5):604-14.
71. Kuzman MR, Medved V, Bozina N, Grubiin J, Jovanovic N, Sertic J. Association study of MDR1 and 5-HT2C genetic polymorphisms and antipsychotic-induced metabolic disturbances in female patients with schizophrenia. *Pharmacogenomics J.* 2011;11(1):35-44.
72. Jovanovi N, Boina N, Lovri M, Medved V, Jakovljevi M, Pele AM. The role of CYP2D6 and ABCB1 pharmacogenetics in drug-naïve patients with first-episode schizophrenia treated with risperidone. *Eur J Clin Pharmacol.* 2010;66(11):1109-17.
73. Skvrce NM, Bozina N, Sarini VM, Tomi S. Adverse drug reactions of hydroxymethylglutaryl-CoA reductase inhibitors reported to agency for medicinal products and medical devices]. *Lijec Vjesn.* 2010;132(9-10):277-82.
74. Mihaljevi-Peles A, Sagud M, Bozina N, Zivkovi M, Jovanovi N. Pharmacogenetics and antipsychotics in the light of personalized pharmacotherapy. *Psychiatr Danub.* 2010;22(2):335-7.
75. Bozina N. The pharmacogenetics of warfarin in clinical practice. *Biochemia Medica.* 2010;20(1):33-44.
76. Marusic S, Gojo-Tomic N, Franic M, Bozina N. Therapeutic efficacy of acenocoumarol in a warfarin-resistant patient with deep venous thrombosis: a case report. *Eur J Clin Pharmacol.* 2009;65(12):1265-6.
77. Mihaljevi-Peles A, Sagud M, Bozina N, Zivkovi M, Jovanovi N. Pharmacogenetics and interactions of antidepressants in the treatment of co-morbid illness. *Psychiatr Danub.* 2009;21(3):399-400.
78. Bozina N, Bradamante V, Lovri M. Genetic polymorphism of metabolic enzymes P450 (CYP) as a susceptibility factor for drug response, toxicity, and cancer risk. *Arh Hig Rada Toksikol.* 2009;60(2):217-42.
79. Bozina N, Jovanovi N, Lovri M, Medved V. Clinical significance of a CYP2D6 poor metabolizer--a patient with schizophrenia on risperidone treatment. *Ther Drug Monit.* 2008;30(6):748-51.
80. Kuzman MR, Medved V, Bozina N, Hotujac L, Sain I, Bilusic H. The influence of 5-HT(2C) and MDR1 genetic polymorphisms on antipsychotic-induced weight gain in female schizophrenic patients. *Psychiatry Res.* 2008;160(3):308-15.
81. Mihaljevi-Peles A, Sagud M, Bozina N, Zivkovi M. Pharmacogenetics and antidepressant treatment in integrative psychiatry perspective. *Psychiatr Danub.* 2008;20(3):399-401.
82. Basic S, Hajnsek S, Bozina N, Filipcic I, Sporis D, Mislav D, Posavec A. The influence of

- C3435T polymorphism of ABCB1 gene on penetration of Phenobarbital across the blood-brain barrier in patients with generalized epilepsy. *Seizure*. 2008;17(6):524-30.
83. Mihaljevic Peles A, Bozina N, Sagud M, Rojnic Kuzman M, Lovric M. MDR1 gene polymorphism: therapeutic response to paroxetine among patients with major depression. *Prog Neuropsychopharmacol Biol Psychiatry*. 2008;32(6):1439-44.
84. Bozina N, Kuzman MR, Medved V, Jovanovic N, Sertic J, Hotujac L. Associations between MDR1 gene polymorphisms and schizophrenia and therapeutic response to olanzapine in female schizophrenic patients. *J Psychiatr Res*. 2008;42(2):89-97.
85. Bozina N, Peles AM, Sagud M, Bilusic H, Jakovljevic M. Association study of paroxetine therapeutic response with SERT gene polymorphisms in patients with major depressive disorder. *World J Biol Psychiatry*. 2008;9(3):190-7.
86. Bozina N, Medved V, Kuzman MR, Sain I, Sertic J. Association study of olanzapine-induced weight gain and therapeutic response with SERT gene polymorphisms in female schizophrenic patients. *J Psychopharmacol*. 2007;21(7):728-34.
87. Mihaljevi-Peles A, Bozina N, Sagud M. Pharmacogenetics in modern psychiatry. *Psychiatr Danub*. 2007;19(3):231-3.
88. Sertic J, Slavicek J, Bozina N, Malenica B, Kes P, Reiner Z. Cytokines and growth factors in mostly atherosclerotic patients on haemodialysis determined by biochip array technology. *Clin Chem Lab Med*. 2007;45(10):1347-52.
89. Boina N. Interactions of antiepileptic and psychotropic drugs - pharmacogenetics of CYP enzymes and P-glycoprotein transporter. *Paediatrica Croatica*. 2006;50(2):41-8.
90. Bozina N, Mihaljevi-Peles A, Sagud M, Jakovljevi M, Serti J. Serotonin transporter polymorphism in Croatian patients with major depressive disorder. *Psychiatr Danub*. 2006;18(1-2):83-9.
91. Boina N, Grani P, Hajnek S, Lali Z, Bai S, Lovri M, et al. Genetic polymorphisms of CYP2C9, CYP2C19 and MDR1 genes and their effect on phenytoin disposition. *Period Biol*. 2005;107(2):183-7.
92. Hajnek S, Bai S, Poljakovi Z, Spori D, Boina N. The effect of MDR1 gene C3435T polymorphism on pharmacotherapeutic efficacy in epilepsy. *Neurologia Croatica*. 2004;53(3-4):69-78.
93. Boina N. Role of pharmacogenomics in pharmacotherapy - from functional genomics to rational therapy. *Pharmaca*. 2004;42(2):71-86.
94. Skaza A, Grskovi B, Plestina S, Bozina N, Potocnik M, Waugh MA. Prevalence of asymptomatic chlamydial urethritis in military recruits in the Celje region, Slovenia. *Int J STD AIDS*. 2003;14(11):765-9.
95. Bozina N, Grani P, Lali Z, Tramisak I, Lovri M, Stavljeni-Rukavina A. Genetic polymorphisms of cytochromes P450: CYP2C9, CYP2C19, and CYP2D6 in Croatian population. *Croat Med J*. 2003;44(4):425-8.
96. Bozina N, Tramisak I, Grani P, Puljevi D, Stavljeni-Rukavina A. Prevalence of ultraextensive drug metabolizers in Croatian population--long-PCR based detection of amplified CYP2D6 gene. *Lijec Vjesn*. 2002;124(3-4):63-6.
97. Boina N, Tramiak I, Medved V, Mihaljevi-Pele A, Grani P, Stavljeni-Rukavina A. CYP2D6 genotype and psychotropic drug-induced adverse effects. *Period Biol*. 2001;103(4):309-14.

Projects

Principal investigator:

2017. -Project, University of Zagreb Support: The role of pharmacogenetics in interactions and opioid drug side effects.

2012- 2016. Pharmacogenomics and Pharmacovigilance in Adverse Drug Reactions Prevention Collaboration of University Hospital Centre Zagreb, Zagreb University School of Medicine, and the Croatian Agency for Medicinal Products and Medical Devices (HALMED). The main objective of the project is to identify polymorphisms that can be associated with the development of drug related ADRs.

Co-worker on projects:

2021EATRIS Plus

2018. COST Association- CA17130 (The Action Enhancing Psychiatric Genetic Counselling,

Testing, and Training in Europe EnGagE)

2018. Project, University of Zagreb Support: The role of the genetic polymorphisms of cytochrome P450 (CYPs) as a factor for hepatotoxicity.

2015- Croatian Science Foundation, "The search for candidate biomarkers for schizophrenia using complementary approaches with integrated functional genomics and pharmacogenetics".

2015- Croatian Science Foundation, "The impact of origin and isolation on ADME genes: Example of the Roma population"

2012- Collaboration with University of Würzburg on the project "Molecular Basis of Neuropsychiatric Disorders, subproject "Molecular Mechanisms of Posttraumatic Stress Disorder financed by Deutscher Akademischer Austauschdienst (DAAD), Stability Pact for South Eastern Europe.

2011- Golden Helix Foundation: "Establishing a European Pharmacogenomics Map: Towards Rationalization of Medical Treatment". Co-supervising the project in Croatia. The goal of the project is to obtain data on gene polymorphism frequencies in Croatian population, relevant for drug treatment.

2007-2013 Pharmacogenetic Variability in Psychiatric Patients (MSES Croatia, principal investigator professor A. Mihaljevi Pele). The aim of the project was to identify polymorphisms predictive of the development of psychotropic drug-related ADRs.

2007-2013 Inflammatory Bowel Diseases (MSES Croatia, principal investigator professor B. Vuceli). One of the objectives was to test for pharmacogenetic predisposition for thiopurine drug-related ADRs.

2007-2013 Functional Genomics and Proteomics of Atherosclerosis Risk Factors (MSES Croatia, principal investigator professor J. Serti). The objective was to find relevant gene markers that could be predictors of atherosclerosis.

Memberships

Croatian Society of Pharmacogenomics and Personalized Therapy

Croatian Pharmacological Society

Croatian Society of Human Genetics

European Pharmacological Society

European Society of Pharmacogenomics and Personalised Therapy

External expert in Croatian Agency for Medicines and Medical Devices, Chairman of the Commission for the Safe Use of Drugs

Invited speaker on pharmacogenomic subjects at Croatian and international symposia, on different subjects dealing with clinical pharmacology, safe drug therapy, toxicology, and pharmacogenomics.

Other Relevant Information

External expert in Croatian Agency for Medicines and Medical Devices, Chairman of the Commission for the Safe Use of Drugs

Invited speaker on pharmacogenomic subjects at Croatian and international symposia, on different subjects dealing with clinical pharmacology, safe drug therapy, toxicology, and pharmacogenomics.

AWARDS

2013 Falk Symposium, London: Cota M, Cukovic-Cavka S, Bozina N, Brinar M, Crncevic Urek M, Turk N, Krznaric Z, Vucelic B. "Inosine Triphosphate Pyrophosphatase And Xanthine Oxidase Gene Variability in Croatian Inflammatory Bowel Disease Patients

2012 2nd EFCC-UEMS Congress Laboratory Medicine at the Clinical Interface, Miroevi Skvrce N, Boina N, Pejnovi L, Barij I, Zibar L, Macoli-arini V. ABCG2 Gene Variant And Fluvastatin Adverse Drug Reactions in Renal Transplant Recipients