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Senior professional associate - Staff Scientist

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Work experience	<p>September 2023 – Staff scientist at Laboratory for Chemical Biology, Division of Molecular Biology, RBI</p> <p>October 2019 – August 2023: postdoc at Laboratory for Protein Biochemistry and Molecular Modelling, RBI</p> <p>December 2012 – September 2019: PhD student at Laboratory for Protein Biochemistry and Molecular Modelling, RBI</p>
Interests	enzymology, hydrolases, metalloproteins, protein biochemistry
Methods	protein expression, purification and characterization: gene cloning and site-directed mutagenesis, recombinant gene expression in <i>E. coli</i> , affinity chromatography, gel-filtration, SDS-PAGE, native PAGE, IEF, Western blot, enzyme activity and kinetics, and ligand binding: spectrophotometric, fluorimetric and microcalorimetric methods, enzyme inhibition analysis; circular dichroism, protein crystallization; qRT-PCR
Education	<p>2018: Doctoral thesis „Biochemical characterization of a dual enzymatic activity hydrolase from moss <i>Physcomitrella patens</i>“, Faculty of Science, University of Zagreb supervisor: Dr. Branka Salopek Sondi (Senior Scientist, RBI),</p> <p>2010: Diploma thesis „The role of Cys176 and Cys509 in the inactivation of human dipeptidyl peptidase III by thiol reagents“, Faculty of Science, University of Zagreb supervisor: Dr. Marija Abramić (Senior Scientist, RBI)</p>
Study visits	<p>2016 (1 month): Institute of Biochemistry, Graz University of Technology (Austria, prof. Peter Macheroux) as a part of the Croatian-Austrian bilateral project „An interdisciplinary study on atypical dipeptidyl peptidases III structure and dynamics“</p> <p>2015 (2 months): Faculty of Biology, University of Freiburg (Germany, prof. Ralf Reski) conducting „Investigation of function of dipeptidyl peptidases III in moss <i>Physcomitrella patens</i> using targeted gene knockouts“ as FEBS Short-Term Fellowship</p> <p>2013 (6 weeks): Institute of Botany, Technical University Dresden (Germany prof. Jutta Ludwig-Müller) as a part of the Alexander von Humboldt project „Study of plant metallopeptidase families M20 and M49“</p>

Publications	<p><u>Z Karačić*</u>, F Šupljika*, A Tomić, L Brkljačić, A Tomašić Paić, M Čehić, S Tomić, Neuropeptides, substrates and inhibitors of human dipeptidyl peptidase III, experimental and computational study — A new substrate identified. <i>Int J Biol Macromol</i> 220 (2022), 1390-1401, doi:10.1016/j.ijbiomac.2022.09.119</p> <p>I. Grgić, K. Cetinić, <u>Z. Karačić</u>, A. Previšić, M. Rožman, Fate and effects of microplastics in combination with pharmaceuticals and endocrine disruptors in freshwaters: Insights from a microcosm experiment. <i>Sci Total Environ</i> 859 (2023) 160387, doi: 10.1016/j.scitotenv.2022.160387</p> <p>A. Matić, F. Šupljika, H. Brkić, J. Jurasović, <u>Z. Karačić</u>, S. Tomić, Identification of an Additional Metal-Binding Site in Human Dipeptidyl Peptidase III. <i>Int J Mol Sci</i> 24 (2023) 16, 12747, doi: 10.3390/ijms241612747</p> <p><u>Z Karačić</u>, Ž Ban, P Macheroux, A novel member of the dipeptidyl peptidase III family from <i>Armillariella tabescens</i>. <i>Curr Top Pept Protein Res</i> 18 (2017), 41-48</p> <p><u>Z Karačić</u>, B Vukelić, GH Ho, I Jozić, I Sućec, B Salopek-Sondi, M Kozlović, SE Brenner, J Ludwig-Müller, M Abramić, A novel plant enzyme with dual activity: an atypical Nudix hydrolase and a dipeptidyl peptidase III. <i>Biol Chem</i> 398 (2017) 1; 101-112, doi: 10.1515/hsz-2016-0141</p> <p>all publications: Google Scholar profile</p>
Recent meetings	<p>July 2021: 45th FEBS Congress (online), poster „Investigating the possible evolution of isopentenyl diphosphate phosphohydrolase from isopentenyl diphosphate isomerase“, I Sućec, A Vlašić, I Sabljic, <u>Z Karačić</u>, <i>FEBS Open Bio</i> 11, 134-134</p>
Recent courses	<p>October 2022: EMBO Workshop on Research Integrity, Zagreb, Croatia October 2022: „Leadership in science“ workshop, Zagreb, Croatia December 2020: CSBMB and FEBS Education committee workshop “Excellent lab book for an excellent career”, Zagreb, Croatia</p>
Honours and awards	<p>2015 FEBS Short-Term Fellowship, for project „Investigation of function of dipeptidyl peptidases III in moss <i>Physcomitrella patens</i> using targeted gene knockouts“ 2010 Commendation for excellence, Faculty of Science, Zagreb 2010 Medal for excellence, Department of Chemistry, Faculty of Science, Zagreb</p>
Memberships	<p>2013 – present: Croatian Society of Biochemistry and Molecular Biology 2013 – present: Croatian Chemical Society 2018 – present: Croatian Society of Plant Biologists</p>
Foreign languages	<p>English: advanced (C2 level) Spanish: intermediate (B2 level) German: intermediate (B1 level)</p>