

IONESCU AURA - ELENA

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E-mail address: aura.ionescu@yahoo.com

Date of birth: 19.11.1988

Place of birth: Ploiești, Prahova, Romania

Citizenship: Romanian

Nationality: Romanian

Gender: Female

I. Professional profile

Current position: Research Scientist at the Institute of Biochemistry of the Romanian Academy

Basic specialization according to university studies: Pharmacist

Postgraduate specialization: Clinical Pharmacy Specialist

Postgraduate studies: PhD student in Biology

II. Professional experience

1. June 2017 - present: Research Scientist

2. February 2013 - May 2017: Research Assistant

The Institute of Biochemistry of the Romanian Academy, Bucharest, Splaiul Independenței no. 296,
code 060031, Romania

e-mail address: www.biochim.ro

Activity: Fundamental research

Between February 2013 and October 2013 my work comprised of the expression and purification of a single-stranded DNA-specific cytidine deaminase and mass spectrometric analysis of protein samples (identification of proteins and detection phosphorylated tyrosine sites using nano-liquid chromatography-tandem mass spectrometry). From November 2013 until now: study of human Eyes absent proteins, mainly EYA3, in the context of Src protein tyrosine kinase induced phosphorylation:

detection of phosphorylated tyrosine sites, EYA3-EYA3 interaction, study of the autodephosphorylation reaction, interaction with WDR1 WT, physiological implications of EYA3 tyrosine phosphorylation and of EYA3 tyrosine to phenylalanine mutants in normal and cancerous mammalian cells (proliferation, invasion). A major part of my work with adjacent results comprises my research as PhD student (see „Publications” and „Participation at conferences, presentations” from paragraph „V. Results of the scientific activity”).

3. January 1st 2013 - December 31st 2015: Resident Pharmacist in Clinical Pharmacy

Emergency Clinical Hospital Bucharest, Calea Floreasca 8, Bucharest 014461, www.scub.ro

Work field: Clinical Pharmacy.

During the three years of residency, I attended practical trainings in the hospital and theoretical courses of clinical pharmacy at the Faculty of Pharmacy.

III. Education and vocational training

Postgraduate studies

November 1st - present: PhD student in Biology

Institute of Biochemistry of the Romanian Academy

Field of activity: Fundamental research

Title of thesis: „Profile analysis of proteins modified by EYAs in normal and cancerous mammalian cells using targeted mass spectrometry”.

Please see the first three publications from paragraph „V. Results of the scientific activity” and „Participation at conferences, presentations”.

I mention that I have obtained a scholarship through project POSDRU „CERO - PROFIL DE CARIERĂ: CERCETĂTOR ROMÂN”, Contract code: POSDRU/159/1.5/S/135760, between August 2014 and November 2015. Within this project I have obtained a scholarship at Utrecht University (Biomolecular Mass Spectrometry and Proteomics, Bijvoet Center for Biomolecular Research and Utrecht Institute for Pharmaceutical Sciences, Utrecht University, The Netherlands) between July 22nd and September 22nd 2015.

October 10th 2012 - October 2014 Masters in Biological Chemistry at Școala Normală Superioară București (SNSB) within the Romanian Academy

Main studied objects: Recombined DNA technology, Bioinformatics and molecular modeling,

Biostatistics, Protein folding and misfolding, Crystallography and protein purification, Biological Chemistry, Interactions between nucleic acids and proteins.

Disertation under preparation.

See article number 3, from "Publications", paragraph V. "Results of the scientific activity".

University Studies

2007 - 2012: Faculty of Pharmacy, University of Medicine and Pharmacy "Carol Davila"
Bucharest, Romania

Main studied objects: Pharmacology and clinical pharmacy, Pharmaceutical technology and Biopharmacy, Toxicology, Biochemistry, Pharmaceutical chemistry, Drug control and analysis, Analytical chemistry, Biostatistics.

Graduation thesis: "Pharmacological screening over newly synthesized thiosemicarbazide, triazole and thiadiazole derivatives."

Please check manuscript number 4 at "Publications", paragraph V. "Results of scientific activity".

Highschool studies

2003 - 2007: „Ion Luca Caragiale” National College, Ploiești, Romania

Specialization: Natural Sciences

IV. Aptitudes

Mother language: Romanian.

Foreign languages known:

Language	understanding	speaking	writing
English	Very well	Very well	Very well
German	Medium level	Medium level	Medium level

Communication aptitudes:

Good communication aptitudes acquired during the pharmaceutical practice carried out in faculty and during residency (consequence of the dialog with various hospitalized patients and with patients from open circuit pharmacies).

Aptitudes acquired at the workplace:

Biochemistry and molecular biology: SDS-PAGE electrophoresis, Western blot, immunoprecipitation, maintaining and processing of mammalian cell cultures (HEK 293T, MCF-7, MDA-MB-231), transient transfections, *in vitro* enzymatic reactions (kinase assay, PTP activity assay), protein expression (in *E. coli*) and purification (affinity, ion exchange, size-exclusion chromatography); electrophoresis, extraction and purification of plasmid DNA, primer design, PCR, cloning.

Mass Spectrometry: In gel and in solution digestion of proteins (cell lysates or purified samples), peptide desalting, titanium dioxide technique of sample enrichment in phosphorylated peptides, the analysis and interpretation of data obtained after the mass spectrometric experiment.

Computer assisted work aptitudes:

The utilization of applications specialized in biochemical fundamental research:

- Thermo Scientific™ Proteome Discoverer™ software, with SEQUEST and Sequest HT algorithms (proteomics mass spectrometry data analysis and interpretation);
- Thermo Scientific™ Xcalibur™ software (data processing);
- Vector NTI;
- PyMOL;
- Image J;
- FCS Express (flow and image cytometry data analysis software).

Applications needed for general usage:

- Experience in working with Microsoft Office™ (Word™, Excel™ și PowerPoint™), Adobe Reader;
- GraphPad Prism 5 (utilized in the preparation of my Graduation thesis and, on a daily basis, in the interpretation of data obtained during the doctoral research);
- Basic knowledge of digital imaging applications (Adobe Illustrator™, PhotoShop™).

V. Results of scientific activity

Publications:

1. Regulation of TRPM8 Channel activity by Src-mediated Tyrosine Phosphorylation

Manolache Alexandra, Selescu Tudor, Maier Georgiana; Mentel Mihaela, Ionescu Aura, Neacsu Cristian, Babes Alexandru, Szedlacsek Stefan
Journal of Cellular Physiology, 2019 Nov 8. doi: 10.1002/jcp.29397.

2. WDR1 is a novel EYA3 substrate and its dephosphorylation induces modifications of the cellular actin cytoskeleton

Mihaela Mentel, Aura E. Ionescu, Ioana Puscalau-Girtu, Martin S. Helm, Rodica A. Badea, Silvio O. Rizzoli & Stefan E. Szedlacsek
Scientific Reports, 2018 Feb 13;8(1):2910. doi: 10.1038/s41598-018-21155-w.

3. Expression, Purification, and Kinetic Analysis of PTP Domains

Mihaela Mențel, Rodica A. Badea, Georgiana Petrăreanu, Sujay T. Mallikarjuna, Aura E. Ionescu, Ștefan E. Szedlacsek
Methods in Molecular Biology, Vol. 1447, Protein Tyrosine Phosphatases, 2016.

4. Phosphoketolases from Lactococcus lactis, Leuconostoc mesenteroides and Pseudomonas aeruginosa: dissimilar sequences, similar substrates but distinct enzymatic characteristics

Georgiana Petrăreanu, Mihaela C Balașu, Andrei M Vacaru, Cristian V A Munteanu, Aura E Ionescu, Iulia Matei, Ștefan E Szedlacsek
Applied Microbiology and Biotechnology. 04/2014; DOI:10.1007/s00253-014-5723-6.

5. Synthesis and Biological Evaluation of Some New N¹-[4-(4-Chlorophenylsulfonyl)benzoyl]-N⁴-(aryl)-thiosemicarbazides and Products of Their Cyclization

Ștefania-Felicia Bărbuceanu, Gabriela Băncescu, Gabriel Șaramet, Florica Bărbuceanu, Constantin Drăghici, Flavian Ștefan Rădulescu, Aura Ionescu and Simona Negreș
Heteroatom Chemistry, Volume 24, Issue 4, pages 309-321, July 2013.

Participation at conferences, symposiums, seminars and courses:

- 2nd International Summer School “Proteomics - from Introduction to Clinical Applications”, 9th - 13th of July 2018, Iași, Romania
- Bioinformatics EMBL-EBI training courses “Introduction to EMBL-EBI resources”, “Sequence search and alignment”, “Introduction to Ensembl”, 18th - 20th of April 2018, Bucharest, Romania (with Certificate of Completion).
- 2nd Romanian Bioinformatics Seminar, 18th - 20th of April 2018, Bucharest, Romania.
- Symposium “Academician Nicolae Cajal” of the Romanian Medical Sciences Academy, 22nd - 24th of March 2018, Bucharest, Romania.
- The presentation of a poster entitled “Evidence for intermolecular autodephosphorylation of human Eya3” (Aura Elena Ionescu, Mihaela Mențel, Rodica Aura Badea, Ștefan Eugen Szedlacsek) at the EMBO Conference - Europhosphatase 2017: Phosphatases in cell fates and decisions, 23rd - 28th of July 2017, Paris, France.
- The presentation of a poster entitled „Mass Spectrometric investigations regarding phosphorylation of human Eya3 by Src kinase” (Aura Elena Ionescu, Mihaela Mențel, Cristian V. A. Munteanu, Cristian Marian Butnaru, Rodica Aura Badea, Ioana Iancu, Ștefan Eugen Szedlacsek), at the EMBO Conference - Europhosphatase 2015: Phosphorylation switches and cellular homeostasis, Turku, Finland.
- Late Summer Practical Proteomics Seminar, 2 - 3 September 2013, IMP/IMBA, Vienna, Austria (with Certificate of Completion).
- Hands-on-Dissolution Workshop, Romania, Poiana Brașov, Alpin Hotel, June 11th -12th, 2012.
- 13th International Congress of the Romanian Society of Clinical Pharmacology, Therapeutics and Toxicology, Poiana Brașov, Hotel Alpin, 11th -14th of June, 2012.

Scientific activity while attending the University/ distinctions:

- First prize at the "Clinical Aptitudes" contest within the 12th edition of the Student Scientific Communications Session, organized by the Faculty of Pharmacy U.M.F. "Carol Davila", from 10th to 11th of May 2012, Bucharest (the competitors had to solve a clinical case).
- Second prize for the study entitled "Experimental pharmacology research concerning the acute toxicity, analgesic effect and anti-inflammatory effect of some newly synthesized organic compounds" accomplished at the Pharmacology and Clinical Pharmacy Department of the Faculty of Pharmacy, U.M.F. "Carol Davila"; within the 12th edition of

the Students Scientific Communications Session, from 10th to 11th of May 2012, Bucharest, organized by U.M.F. "Carol Davila".

- Participation at the 11th edition of the Student Scientific Communications Session, Bucharest, 2011, with the study entitled "Experimental pharmacology research concerning acute toxicity, analgesic effect and anti-inflammatory effect of newly synthesized organic compounds", accomplished at the Pharmacology and Clinical Pharmacy Department of the Faculty of Pharmacy, U.M.F. "Carol Davila".
- Fourth prize with the study entitled "New tioureids of the 2-thiophencarboxylic acid with potential pharmacological activity", accomplished at the Pharmaceutical Chemistry Department; within the 10th edition of the Student Scientific Communications Session, Bucharest, 2010.

Awards obtained while studying in highschool:

- ✓ Special mention - National Chemistry Olympics, 41st Edition, Braşov 2007;
- ✓ First Prize - County Chemistry Olympics, Ploieşti, 2007;
- ✓ Mentioned - County Chemistry Olympics, Ploieşti, 2006;
- ✓ 3rd Prize - County Chemistry Olympics, Ploieşti, 2005;
- ✓ Mentioned - County Chemistry Olympics, Ploieşti, 2004.

VI. Other:

Moral and intelectual traits:

- Persevering and consistent in acheiving any objective
- Friendly, team spirited and reliable when working in groups
- Organised, with high capacity of analysis

Drivers license: Category B (vehicles capable of transporting up to 8 people, seated).

Date

Ionescu Aura - Elena

8.11.2019