

Miljan Simonović

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POSITIONS AND EMPLOYMENT

- 2014 – present *Associate Professor*, Department of Biochemistry and Molecular Genetics, University of Illinois at Chicago, Chicago, Illinois.
- 2008 - 2014 *Assistant Professor*, Department of Biochemistry and Molecular Genetics, University of Illinois at Chicago, Chicago, Illinois.

EDUCATION AND TRAINING

- 2006 – 2008 *Postdoctoral Associate*, Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, CT. Adviser: Professor Thomas A. Steitz.
- 2003 – 2006 *The Jane Coffin Childs Postdoctoral Fellow*, Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, CT. Adviser: Professor Thomas A. Steitz.
- 2002 – 2003 *Postdoctoral Research Fellow*, Department of Biochemistry, University of Illinois at Chicago, Chicago, IL. Adviser: Professor Peter G.W. Gettins.
- 2002 *Doctor of Philosophy*, Department of Biochemistry, University of Illinois at Chicago, Chicago, IL. Thesis: "Crystallographic analysis of serpins and a bacterial response regulator". Adviser: Professor Peter G. W. Gettins.
- 1997 *Master in Science*, Chair of Biochemistry, Faculty of Chemistry, University of Belgrade, Belgrade, Serbia. Thesis: "Cloning, expression and interaction with the $G\alpha$ protein of the third cytosolic loop of the human dopamine D₂ receptor". Degree: Biochemistry, M.Sc. Adviser: Dr. Vukić Šokškić.
- 1995 *Bachelor of Science*, Chair of Biochemistry, Faculty of Chemistry, University of Belgrade, Belgrade, Serbia. Degree: Biochemistry, B.Sc. Adviser: Dr. Vukić Šokškić.

DISTINCTIONS

- 2003-2006. The Jane Coffin Childs Postdoctoral Fellowship, The Jane Coffin Childs Memorial Fund, New Haven, CT.
2002. The Dean's Scholarship, University of Illinois at Chicago, Chicago, IL.
- 1999-2001. The University Fellowship, University of Illinois at Chicago, Chicago, IL.
1996. The Serbian Chemical Society Award, Belgrade, Serbia.
1996. The Department of Biochemistry Award, Faculty of Chemistry, University of Belgrade, Serbia.

PROFESSIONAL SERVICE

Grant reviewing

- Ad hoc reviewer for NSF, Division of Molecular and Cellular Biosciences
- Ad hoc reviewer for NIH, NIGMS
- Reviewer for the Erwin Schrödinger Foundation, Austria.
- Reviewer for Agence Nationale de la Recherche (ANR), France
- Reviewer for the Croatian Science Foundation
- Reviewer for the Austrian Science Fund (FWF)

Service as a reviewer for journals

Biochimica et Biophysica Acta, PLoS ONE, PLoS Biology, FEBS Letters, Biochemical and Biophysical Research Communications, Archives of Biochemistry and Biophysics, Nature Structural and Molecular Biology, ACS Chemical Biology, Nature Chemical Biology, Biochemical Journal

Other

1. Co-chair: Seventh Annual Symposium of the Chicago Biomedical Consortium, The Biology of Non-coding RNAs, Chicago, October 30, 2009.
2. Session chair: FCUB-ERA: 1st Workshop: Food safety and health effects of food, Faculty of Chemistry, Belgrade, January 31-Feb. 2, 2011.
3. Session chair: The 2011 International Symposium on Aminoacyl-tRNA Synthetases", Salt Lake City, Utah, Sept. 25-30 2011.
4. Co-chair: 5th Regional Biophysics Conference, Kladovo, Serbia, Sept. 3-7 2012.
5. Lecturer; Crystallography Workshop; FCUB-ERA: 3rd Workshop: Food safety and health effects of food, Faculty of Chemistry, Belgrade, November 26-28, 2012.
6. Session co-chair: FCUB-ERA: 3rd Workshop: Food safety and health effects of food, Faculty of Chemistry, Belgrade, November 26-28, 2012.

ADMINISTRATIVE SERVICE

Departmental

- 2008 – present **The Graduate Studies Committee.** Evaluated applicants during recruitment and admission.
- 2011 - 2015 **The Departmental Annual Retreat,** organizer and chair.

University and College

- 2017 – present **The Graduate College Executive Committee,** member.
- 2016 – 2017 **The College of Medicine Committee on Students Awards and Scholarships,** member.
- 2008 – 2015 **The Medical Scientists in Training Program,** Evaluated applicants for the UIC M.D.- Ph.D. program during recruitment and admission.

STUDENTS AND TRAINEES

1. Doctoral Students

Thesis advisor

Rachel L. French	06/2011 – 05/2015	Dept. Biochem. & Mol. Gen.
Kaitlyn M. Holman	06/2011 – 07/2015	Dept. Biochem. & Mol. Gen.
Malgorzata Dobosz-Bartoszek	06/2011 – 08/2016	Dept. Biochem. & Mol. Gen.
Anupama K Puppala	06/2016 – present	Dept. Biochem. & Mol. Gen.

Thesis committee member

Rima Chaudhuri (Advisor: Michael Johnson)	Nov. 2008 – Oct. 2010	graduated on 10/11/10
Megan Sturdy (Advisors: Andrew Mesecar and Jimmy Orjala)	Dec. 2008 – Nov. 2010	graduated on 11/01/10
Joseph Zapater (Advisor: Karen Colley)	Mar. 2010 – May 2013	graduated on 05/30/11
Krishna Kannan (Advisor: Alexander Mankin)	Oct. 2010 – Dec. 2012	graduated on 12/10/12
Pulkit Gupta (Advisor: Alexander Mankin)	Oct. 2011 – Dec. 2013	graduated on 10/29/13
Shanmugapriya Sothiselvam (Advisor: Alexander Mankin)	Aug. 2012 – Feb. 2016	graduated on 02/24/16
Yuka Shimizu (Advisor: Joe Garcia)	Mar. 2013 – Oct. 2014	graduated on 10/10/14
Emmanuel Ansong (Advisor: Alan Diamond)	Jan. 2013 – June 2014	graduated on 06/27/14
Aleksandar Antanasijević Miljan Simonović - CV	Jan. 2013 – present	graduated on 05/04/16

(Advisor: Michael Caffrey)

James Marks July 2014 – present
(Advisor: Alexander Mankin)

Kevin Gorman July 2014 – present
(Advisor: Brian Kay)

Stefanie Kall July 2014 – present
(Advisor: Arnon Lavie)

Matthew Durst July 2015 – present
(Advisor: Arnon Lavie)

Felecia Marottoli Sept. 2016 – present
(Advisor: Leon Tai)

Ryan Clarke Sept. 2016 – present
(Advisor: Bradley Merrill)

Prelim committee member

Joseph Zapater Feb. 2010 (advisor: Karen Colley)

Krishna Kannan Sept. 2010 (advisor: Alexander Mankin)

Stefanie Kall June 2014 (advisor: Arnon Lavie)

Kevin Gorman July 2014 (advisor: Brian Kay)

James Marks Sept. 2014 (advisor: Alexander Mankin)

Matthew Durst Feb. 2016 (advisor: Arnon Lavie)

Ryan Clarke July 2016 (advisor: Bradley Merrill)

Rotation students

Julia Misra Jan. – May 2009

Yuka Shimizu Mar. – May 2009

Sumeyye Yar Sept. – Dec. 2009

Felecia Marottoli Dec. 2010 – March 2011

Danielle Brynteson Mar. – May 2011

Rachel L. French (Schmidt) Dec. 2010 – March 2011

Kaitlyn M. Holman (Peterson) Mar. – May 2011

Malgorzata Dobosz-Bartoszek Oct. – Dec. 2011

Aleksandar Antanasijević Jan. – Mar. 2012

Stefanie Kall Oct. – Dec. 2012

Anupama Puppala Dec. 2013 – March 2014

James Hopkins June – Aug. 2015

Nikolay Aleksashin Sept. – Nov. 2016

Rima Rebiai Jan. – March 2017

Rotating MD/PhD students

Artemis Gogos June – Aug. 2014
Christopher Manzella Jul. – Aug. 2014

2. Postdoctoral Associates

Jana Ognjenović, Ph.D. (12/16/13 – 11/15/16)
Milica Grozdanović, Ph.D. (09/16/14 – 04/15/16)

3. International Masters students, University of Bath, UK (rotation project supervisor)

current position

Penelope J. La Borde Apr. – Oct. 2009 University of Birmingham – PhD student
Victoria Hale Mar. – Oct. 2010 University of Bath – research assistant

4. Undergraduate students

current position

Yoshiko Shimizu June – Aug. 2009 University of Hawaii, graduate student
Sami Kishawi July – Sept. 2010 Loyola University, MSci student
Emmeline Capel June – July 2011 PharmD student, UIC
Jonathan Lee Sep 2013 – Aug 2015 MD student, UIC
Milos Jovanovic Sep 2014 – Dec 2015 MD student

5. High-school students

current position

Deena Kishawi 2010 undergraduate student, DePaul University
Madeline Wegener 2013 undergraduate student, University of Wisconsin-Madison
Lena Schaller 2011 undergraduate student, Brown University

6. Guest scientists:

1. Tanja Ćirković Veličković, Ph. D., Professor, University of Belgrade, Serbia.
2. Milan Nikolić, Ph.D., Postdoctoral Fellow, University of Belgrade, Serbia.
3. Donald Gagné, Graduate student (advisor: Nicolas Doucet), University of Quebec, Canada.

TEACHING

- *Biochemistry* (GCLS 501, 3 credit hours), UIC, 2009-present, lecturer and course director (25%), graduate level.
- *Research Methods I – Spectroscopic and Structural Biology Methods* (GCLS 504, 1 credit hour), The University of Illinois at Chicago, 2011, (5%), graduate level.
- *Structure of Biopolymers* (BCMG 513, 3 credit hours), UIC, 2008-2012, lecturer and supervisor of the student's seminars and projects (10%), graduate level.

- *Principles of Structure Determination and Analysis* (BCMG 513, 3 credit hours), UIC, 2013-present, lecturer and supervisor of the student's seminars and projects (10%), graduate level.
- *Medical Biochemistry* (BMS648), UIC, 2012-present, lecturer (2%), medical college level.

PRESENTATIONS (since 2008)

Invited seminars:

1. "How do we make the 21st amino acid?" Chicagoland RNA club, University of Chicago, Feb. 2009.
2. "Human SepSecS-tRNA^{Sec} complex reveals the mechanism of selenocysteine formation", Center for Pharmaceutical Biotechnology, University of Illinois at Chicago, Feb. 26, 2009.
3. "Structural insights into ankyrin-spectrin recognition" Gordon Conference, University of New England, Biddeford, ME, June 28-July 3, 2009.
4. "Synthesis of the 21st amino acid?", The Medical Scientists in Training Program, University of Illinois at Chicago, Sept. 15, 2009.
5. "Unusual tRNA structure facilitates formation of selenocysteine", Department of Biological Sciences, University of Illinois at Chicago, Oct. 13, 2009.
6. "Structural insights into selenocysteine formation in humans", The 23rd tRNA Workshop, Aveiro, Portugal, Jan. 28 - Feb. 2, 2010.
7. "The mechanism of selenocysteine synthesis in humans" Department of Microbiology, Ohio State University, Columbus, Ohio, Jan. 19, 2011.
8. "Selenium and selenoproteins in human health: Se-ing selenocysteine synthesis", FCUB-ERA: 1st workshop: Food safety and health effects of food, Faculty of Chemistry, Belgrade, January 31-Feb. 2, 2011.
9. "The mechanism of selenocysteine formation", Biophysical Society of Serbia, Faculty of Biology, University of Belgrade, Belgrade, Serbia, Feb. 4, 2011.
10. "The crystal structure of yeast mitochondrial threonyl synthetase provides insight into the mechanism of codon reassignment", The 2011 International Symposium on Aminoacyl-tRNA Synthetases, Salt Lake City, Utah, Sept. 25-30, 2011.
11. "A peculiar genetic code reassignment event in yeast mitochondria", Center for Pharmaceutical Biotechnology, University of Illinois at Chicago, Dec. 8, 2011.
12. "Unusual tRNA structure ensures fidelity of mRNA translation", The 5th Regional Biophysics Conference, Kladovo, Serbia, Sept 3 -7, 2012.
13. "Divergent strategies for tRNA recognition essential for translational fidelity" Wayne State University, Department of Chemistry, Detroit, MI, Sept. 20-21, 2012.
14. "Divergent strategies for tRNA recognition essential for translational fidelity" University of Innsbruck, Nov. 29, 2012.

15. "Selenocysteine synthesis and human health", Center for Pharmaceutical Biotechnology, University of Illinois at Chicago, Mar. 21, 2013.
16. "Divergent strategies for tRNA recognition essential for translational fidelity", Department of Biochemistry and Medicinal Biochemistry, University of Illinois Urbana-Champaign, April 4-6, 2013.
17. "Conservation and divergence in selenocysteine biosynthesis", The 10th International Symposium on Selenium Biology and Medicine 2013, Berlin, Germany, Sept. 14-18, 2013.
18. "Architecture of human ribonucleoprotein complexes responsible for selenocysteine synthesis and insertion", The 2013 (9th) International Symposium on Aminoacyl-tRNA Synthetases, Hakone, Japan, Oct. 6-11, 2013.
19. "Selenocysteine synthesis and human health", The Medical Scientists in Training Program, University of Illinois at Chicago, February 26, 2014.
20. Dobosz-Bartoszek M, Otwinowski Z, **Simonović M** "The crystal structure of human selenocysteine tRNA-specific elongation factor, eEFSec" 25th tRNA Conference, Kyllini, Greece, Sept. 21-25, 2014.
21. Ognjenović J, Wu J, Manzella C, Ling J, **Simonović M** "Structural basis for neurological disorders caused by mutations in human cytosolic GlnRS" 25th tRNA Conference, Kyllini, Greece, Sept. 21-25, 2014.
22. Palioura S, Liu Y, Schmidt RL, Su D, **Simonović M**, Anttonen A-K, Hilander T, Tynymä H, Söll D "Selenoprotein biosynthesis and human disease" 25th tRNA Conference, Kyllini, Greece, Sept. 21-25, 2014.
23. Dobosz-Bartoszek M, Pinkerton MH, Otwinowski Z, Chakravarthy S, Söll D, Copeland PR, **Simonović M** "Crystal structures of the human elongation factor eEFSec suggest a non-canonical mechanism for selenocysteine incorporation", RNA Club, University of Chicago, April 11, 2016.
24. "UGA does not always mean the end" Department of Microbiology and Immunology, UIC, Oct. 10, 2016.

Posters (since 2008):

1. Stabach PR, Simonović I, Ranieri MA, Aboodi, MS, Steitz TA, Morrow JS, **Simonović M** "The structure of the ankyrin-binding site of β -spectrin reveals how tandem spectrin repeats generate unique ligand-binding properties", Red Cell Conference, University of Rochester, Rochester, NY, USA (2008).
2. Stabach PR, Simonović I, Ranieri MA, Aboodi, MS, Steitz TA, Morrow JS, **Simonović M** "The structure of the ankyrin-binding site of β -spectrin reveals how tandem spectrin repeats generate unique ligand-binding properties", 1st Annual Departmental Retreat, Zion, IL, USA, Nov 1-2, 2008.

3. Stabach P, La-Borde PJ, Simonović I, **Simonović M**, Morrow JS “Ankyrin recognizes both the surface character and shape of the 14-15 di-repeat of β -spectrin”, Red Cell Conference, Yale University, New Haven, CT, USA (2009).
4. La-Borde PJ, Simonović I, **Simonović M** “Ankyrin recognizes both the surface character and shape of the 14-15 di-repeat of β -spectrin”, 2nd Annual Departmental Retreat, Zion, IL, USA, Oct 17-18, 2009.
5. Palioura S, Sherrer RL, Steitz TA, Söll D, **Simonovic M** “Distinct structure of tRNA^{Sec} facilitates formation of selenocysteine”, 7th Annual CBC Symposium: The Biology of non-coding RNAs: Old molecules, New Actions, Northwestern University, Chicago, IL, USA, Sept. 8, 2009.
6. Palioura S, Sherrer RL, Steitz TA, Söll D, **Simonovic M** “Distinct structure of tRNA^{Sec} facilitates formation of selenocysteine”, The 23rd tRNA Workshop, Aveiro, Portugal, Jan. 28 – Feb. 2, 2010.
7. Peterson KM, Simonović I, Söll D, Ling J, **Simonović M** “The crystal structure of yeast mitochondrial threonyl synthetase provides insight into the mechanism of codon reassignment”, 2011 International Symposium on Aminoacyl-tRNA Synthetases”, Salt Lake City, UT, USA, Sept. 25-30, 2011.
8. Schmidt RL, Simonović I, **Simonović M** “Secrets of the terminal catalytic complex in the synthetic cycle of selenocysteine unraveled”, UIC College of Medicine Research Forum, Chicago, IL, USA, Nov. 11, 2011.
9. Schmidt RL, Simonović I, **Simonović M** “Secrets of the terminal catalytic complex in the synthetic cycle of selenocysteine unraveled”, 20th International Analytical Ultracentrifugation Conference, San Antonio, TX, USA, March 25-30, 2012.
10. Gagné, D, Charest LA, Schmidt RL, **Simonović M**, Doucet N “Selective modulation of dynamic sectors in RNase A by a single point mutation”, 12th Annual Symposium of the Quebec Network for Research on Protein Structure, Function and Engineering (PROTEO), University of Sherbrooke, Sherbrooke, QC, Canada, May 18, 2012.
11. Dobosz M and **Simonović M** “The role of specialized elongation factor, EFsec, in incorporation of selenocysteine into selenoproteins”, 5th Annual Dept. Retreat, Fontana, WI, USA, Aug. 20-21, 2012.
12. Peterson KM, Simonović I, Söll D, Ling J, **Simonović M** “The mechanism of pre-transfer editing in yeast mitochondrial threonyl-tRNA synthetases”, 5th Annual Dept. Retreat, Fontana, WI, USA, Aug. 20-21, 2012.
13. Schmidt RL, Simonovic I, **Simonović M** “Structural studies on the terminal complex in the selenocysteine synthetic pathway”, 5th Annual Dept. Retreat, Fontana, WI, USA, Aug. 20-21, 2012.

14. Peterson KM, Simonović I, Söll D, Ling J, **Simonović M** "The mechanism of pre-transfer editing in yeast mitochondrial threonyl-tRNA synthetases", UIC College of Medicine Research Forum, Chicago, IL, USA, Nov. 16, 2012.
15. **Simonović M**, Peterson KM, Simonović I, Söll D, Ling J "The mechanism of the CUN codon reassignment in yeast mitochondria", 24th tRNA Conference, Olmué, Chile, Dec 2-6, 2012.
16. Schmidt RL, Dobosz-Bartoszek M, **Simonović M** "Architecture of catalytic complexes essential for synthesis and co-translational insertion of selenocysteine in humans", 18th Annual Meeting of RNA Society, Davos, Switzerland, June 11-16, 2013.
17. Schmidt RL and **Simonović M** "Architecture of the terminal catalytic complex essential for synthesis and co-translational insertion of selenocysteine in humans", 10th International Symposium on Selenium in Biology and Medicine 2013, Berlin, Germany, Sept. 14-18, 2013.
18. Lee J, Holman KM, **Simonović M** "The mechanism of tRNA recognition by human cytosolic seryl-tRNA synthetase", University of Illinois Undergraduate Research Day: Posters Under the Dome, Illinois State Capitol Building, Springfield, IL, May 1, 2014.
19. Dobosz-Bartoszek M and **Simonović M** "Structural studies of human selenocysteine tRNA-specific translational elongation factor, eEFSec", Quo Vadis Structural Biology? SBGrid/NE-CAT Computing School, Harvard Medical School, Boston, MA, June 5-7, 2014.
20. Dobosz-Bartoszek M and **Simonović M** "Structural studies of the human selenocysteine tRNA-specific elongation factor, eEFSec", The 1st Annual MBRB Retreat, UIC, Chicago, IL, June 2014.
21. Gagné D, Couture J-F, **Simonović M**, Doucet N "Structural and biophysical characterization of human RNase 6", 23rd Congress and General Assembly of the IUCr, Montreal, Canada, Aug. 5 – 12, 2014.
22. Dobosz-Bartoszek M, Otwinowski Z, **Simonović M** "The crystal structure of human selenocysteine tRNA-specific elongation factor, eEFSec" 7th Annual Dept. Retreat, Fontana, WI, USA, 2014.
23. Ognjenović J, Wu J, Manzella C, Ling J, **Simonović M** "Structural basis for neurological disorders caused by mutations in human cytosolic GlnRS" 7th Annual Dept. Retreat, Fontana, WI, USA, 2014.
24. Holman KM, Lee J, **Simonović M** "Biophysical characterization of human cytosolic seryl-tRNA synthetase and its complexes with substrate tRNAs" 7th Annual Dept. Retreat, Fontana, WI, USA, 2014.
25. French RL, Ekoue D, Matthies D, Subramaniam S, Diamond AM, **Simonović M** "SepSecS and its link to neurological disorders" 7th Annual Dept. Retreat, Fontana, WI, USA, 2014.
26. Ognjenović J, Wu J, Manzella C, Ling J, **Simonović M** "Structural basis for neurological disorders caused by mutations in human cytosolic GlnRS" UIC College of Medicine Research Forum, Chicago, IL, USA, Nov. 21, 2014.

27. French RL, Ekoue D, Matthies D, Subramaniam S, Diamond AM, **Simonović M** "Implications of the physiologically relevant SepSecS mutations" UIC College of Medicine Research Forum, Chicago, IL, USA, Nov. 21, 2014.
28. Holman KM, Ling J, **Simonović M** "The crystal structure of yeast mitochondrial threonyl-tRNA synthetase (MST1) bound to tRNA^{Thr} provides insight into the mechanism of codon reassignment" UIC College of Medicine Research Forum, Chicago, IL, USA, Nov. 21, 2014.
29. Dobosz-Bartoszek M, Otwinowski Z, **Simonović M** "The crystal structure of human selenocysteine tRNA-specific elongation factor, eEFSec", Chicago International Year of Crystallography, Chicago, IL, 2014.
30. Dobosz-Bartoszek M, Otwinowski Z, Copeland PR, **Simonović M** "Structural and biochemical studies of the human selenocysteine tRNA-specific translational elongation factor eEFSec." 8th Annual Dept. Retreat, Fontana, WI, USA, 2015.
31. Jovanovic M, Dobosz-Bartoszek M, **Simonović M** "Characterization of functional mutants of human selenocysteine tRNA-specific elongation factor, eEFSec." The Honors College Research Symposium, UIC, Chicago, IL, 2015.

Conference abstracts in journals:

1. Ackerman SJ, Xin F, **Simonović M**, Simkevich CP, Rosmarin AG (1999) A dual ETS consensus site in the CLC (Galectin-10) gene binds GABP and PU.1 and is activated by PU.1. *Am J Resp Crit Care Med* 159, Supplement S, A443.
2. Ackerman SJ, **Simonović M**, Xin F, Sun Z, Yergeau DA, Simkevich CP, Rosmarin AG (1998) A dual ETS consensus site in the human eosinophil Charcot-Leyden crystal protein (Galectin-10) promoter binds GABP and PU.1 and is activated by PU.1. *Blood* 92, Supplement 1, 149B.

EXTRAMURAL FUNDING

Current

- NIH R01GM097042 PI (05/01/12 – 04/30/18)
"The mechanism of selenium incorporation into selenocysteine in humans".

The goal of this project is to determine the mechanism of key steps in selenocysteine synthesis in humans. In particular, the mechanism of (i) serylation of selenocysteine tRNA by SerRS, (ii) conversion of phosphoseryl-tRNA^{Sec} into selenocysteinyl-tRNA^{Sec} and (iii) synthesis of selenophosphate in humans will be determined.

Pending

NIH R01GM097042 renewal.
NIH R03

Completed

- The Jane Coffin Childs Postdoctoral Fellowship (Simonović) (08/15/03–08/14/06)
- American Cancer Society, Illinois Division, Inc. (Simonović) (02/01/12 – 01/31/13)
“Selection and targeting of selenocysteine by human elongation factor”.

PUBLICATIONS (* Corresponding and co-corresponding author):

After joining UIC:

In preparation:

- Puppala AK and **Simonović M*** (2017) Allosteric regulation of the stoichiometry of the SepSecS-tRNA^{Sec} complex, *in preparation*.
- Ognjenović J and **Simonović M*** (2017) The crystal structure of human selenophosphate synthetase 2, *in preparation*.

Under review:

- Holman KM, Lee JW, Hyun L, **Simonović M*** (2017) Insights into substrate promiscuity of human seryl-tRNA synthetase, *RNA*

Published:

1. Ognjenović J and **Simonović M*** (2017) Human aminoacyl-tRNA synthetases in diseases of the nervous system, *RNA Biology*, *in press*.
2. Dobosz-Bartoszek M, Pinkerton MH, Otwinowski Z, Chakravarthy S, Söll D, Copeland PR, **Simonović M** (2016) Crystal structures of the human elongation factor eEFSec suggest a non-canonical mechanism for selenocysteine incorporation, *Nature Commun* **7**, 12941 doi: 10.1038/ncomms12941. PMC5059743.
3. Gladyshev VN,..., **Simonović M**,..., et al. (2016) Selenoprotein Gene Nomenclature, *J Biol Chem*, doi: 10.1074/jbc.M116.756155. PMC5104929.
4. Puppala AK, French RL, Mathies D, Baxa U, Subramaniam S, **Simonović M** (2016) Structural basis for early-onset neurological disorders caused by mutations in human selenocysteine synthase, *Sci Rep* **6**, 32563 doi: 10.1038/srep32563. PMC5006159.
5. Ognjenović J, Wu J, Mathies D, Baxa U, Subramaniam S, Ling J, **Simonović M** (2016) The crystal structure of human GlnRS provides basis for the development of neurological disorders, *Nucleic Acids Res* **44**, 3420-3431. PMC4838373.
6. Dobosz-Bartoszek M & **Simonović M** (2016) Structure and mechanism of selenocysteine synthases, in *Selenium: Its Molecular Biology and Role in Human Health, 4th Edition* (Editors: Hatfield DL, Schweizer U, Tsuji P, Gladyshev VN), Springer International Publishing, 101-112, doi: 10.1007/978-3-319-41283-2_9.
7. Holman KM, Wu J, Ling J, **Simonović M** (2015) The crystal structure of yeast mitochondrial ThrRS in complex with the canonical threonine tRNA, *Nucleic Acids Res* **44**, 1428-1439. PMC4756836.

8. Gagné D, French RL, Narayanan C, **Simonović M**, Agarwal PK, Doucet N (2015) Perturbation of the conformational dynamics of an active-site loop alters enzyme activity, *Structure* **23**, 2256-2266. PMC4680847.
9. Anttonen A-K, Hilander T, Linnankivi T, Isohanni P, French RL, Liu Y, **Simonović M**, Söll D, Somer M, Muth-Pawlak D, Corthals GL, Laari A, Ylikallio E, Lähde M, Valanne L, Lönnqvist T, Pihko H, Paetau A, Lehesjoki A-E, Suomalainen A, Tyynismaa H (2015) Selenoprotein biosynthesis defect causes progressive encephalopathy with elevated lactate, *Neurology* **28**, 306-315. PMC4520820.
10. French RL, Gupta N, Copeland PR, **Simonović M*** (2014) Stoichiometry of the human terminal catalytic complex in selenocysteine synthesis, *J Biol Chem* **289**, 28783-28794. PMC4200239.
11. Ognjenović J, Stojadinović M, Milčić M, Apostolović D, Vesić J, Atanasković-Marković M, **Simonović M**, Ćirković Veličković T (2014) Interactions of epigallo-catechin 3-gallate and ovalbumin, the major allergen of egg white, *Food Chem* **164**, 36-43. PMID: 24996302.
12. Rigger L, Schmidt RL, Holman KM, **Simonovic M***, Micura R* (2013) The synthesis of methylated, phosphorylated, and phosphonated 3'-aminocyl-tRNA^{Sec} mimics, *Chemistry* **19**, 15872-15878. PMC4010121.
13. Schmidt RL and **Simonović M*** (2012) Synthesis and decoding of selenocysteine and human health, *Cro Med J* **53**, 535-550. PMC3541580.
14. Ling J, Peterson KM, Simonović I, Söll D, **Simonović M*** (2012) The mechanism of pre-transfer editing in yeast mitochondrial threonyl-tRNA synthetases, *J Biol Chem* **287**, 28518-28525. PMC3436575.
15. Ling J, Peterson KM, Simonović I, Cho C, Söll D, **Simonović M*** (2012) Yeast mitochondrial threonyl-tRNA synthetase recognizes tRNA isoacceptors by distinct mechanisms and promotes CUN codon reassignment, *Proc Natl Acad Sci USA* **109**, 3281-3286. PMC3295322.
16. Su D, Lieberman A, Lang BF, **Simonović M**, Söll D, Ling J (2011) An unusual tRNA^{Thr} derived from tRNA^{His} reassigns in yeast mitochondria the CUN codon to threonine, *Nucleic Acids Res* **39**, 4866-4874. PMC3113583.
17. Palioura S, Herkel J, **Simonović M**, Lohse A, Söll D (2010) Human SepSecS or SLA/LP: selenocysteine formation and autoimmune hepatitis, *Biol Chem* **391**, 771-776. PMID: 20623998.
18. Doucet N, Jayasundera TB, **Simonović M**, Loria JP (2010) The crystal structure of ribonuclease A in complex with thymidine-3'-monophosphate provides further insight into ligand binding, *Proteins: Structure, Function and Bioinformatics* **78**, 2459-2468. PMID: 20602460.
19. La-Borde PJ, Stabach P, Simonovic I, Morrow JS, **Simonović M*** (2010) Ankyrin recognizes both the surface shape and charge of the 14-15 di-repeat of β -spectrin, *Biochem Biophys Res Commun* **392**, 490-494. PMC2839365.

20. Yuan J, O'Donoghue P, Ambrogelly A, Gundllapalli S, Sherrer RL, Palioura S, **Simonović M**, Söll D (2010) Distinct genetic code expansion strategies for celenocysteine and pyrrolysine are reflected in different aminoacyl-tRNA formation systems, *FEBS Lett* **584**, 342-349. PMC2795046.
21. Palioura S, Sherrer RL, Steitz TA, Söll D, **Simonović M*** (2009) Human SepSecS-tRNA^{Sec} complex reveals the mechanism of selenocysteine formation, *Science* **325**, 321-325. PMC2857584.
22. Stabach PR, Simonovic I, Ranieri MA, Aboodi, MS, Steitz TA, **Simonović M***, Morrow JS (2009) The structure of the ankyrin-binding site of β -spectrin reveals how tandem spectrin-repeats generate unique ligand-binding properties, *Blood* **113**, 5377-5384. PMC2689040.

Before joining UIC:

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