

Reza Khodarahmi

Assistant Prof.

PhD of Biochemistry

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Personal Records

Name: Reza Khodarahmi

Date of Birth: August 4, 1974

Nationality: Iranian

Gender: Male

Place of Birth: Nahavand, Iran

Marital Status: Married, 2 Children

Appointment: PhD in Biochemistry

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Languages:

I know Farsi (native) and English (semi-fluently).

Present Position: PhD in Biochemistry

Educational Records

B.Sc:

From: University of Razi, Kermanshah, Iran (1997)

Major: Biology

M.Sc:

From: Faculty of Sciences, University of Tarbiat-Modarres, Tehran, Iran (2000)

Major: Pure Biochemistry

Thesis: Development of a new affinity gel for purification of glycoproteins.

Ph.D:

From: Institute of Biochemistry and Biophysics, University of Tehran, Tehran, Iran (2001-2006)

Major: Applied Biotechnology

Thesis: The effects of new chemical chaperones on the extent of aggregation of recombinant proteins during the refolding processes.

Honors and Awards

- 1) Top B.Sc student of Biology Department, Razi University, 1997.
- 2) Top M.Sc student of Biochemistry Department, Faculty of Sciences, Tarbiat Modarres University, 2000.
- 3) Distinguished as young scientist in 8th Iranian congress of Biochemistry and First international congress of Biochemistry and molecular Biology, September 11-15, 2005.
- 4) Distinguished researcher in University of Tehran, 2006.
- 5) Distinguished teacher and researcher in Kermanshah University of Medical Sciences, 2008, 2009.

Representative publications

(Books in Persian)

- 1- Biochemistry and Biophysics of Metabolism, Noor-e-Danesh Publication, Tehran, Iran, 2003 (Second edition, 2008) Reza Khodarahmi and Nooshin Bahrami Ghane (www.noordanesh-pub.com)
- 2- From wheat grains to bread loaves, "Biochemistry of wheat" Chapter, First international congress of wheat, Tehran, Iran, 2002, Boards of Authors.

(Published Full Journal Papers)

- 1- Refolding of chemically denatured α -amylase in dilution additive mode, **Reza Khodarahmi** and Razieh Yazdanparast, Biochim. Biophys. Acta, 2004, 1674, 175-181.
- 2- The Combined effects of two anti-aggregatory agents, α -cyclodextrin and Ca^{2+} , on the refolding process of denatured α -amylase, Razieh Yazdanparast and **Reza Khodarahmi**, Biotechnol. Appl. Biochem., 2005, 41, 157-162.
- 3- Suppression effect of guanidine hydrochloride on α -cyclodextrin-assisted refolding of denatured α -amylase, **Reza Khodarahmi** and Razieh Yazdanparast, Process Biochem., 2005, 40, 2973-2979.
- 4- Comparative studies of the artificial chaperone-assisted refolding of thermally denatured bovine carbonic anhydrase using different capturing ionic detergents and β -cyclodextrin, R. Yazdanparast, **R. Khodarahmi** and E. Soori, Arch. Biochem. Biophys., 2005, 437, 178-185.
- 5- Fluorimetric study of the artificial chaperone-assisted renaturation of carbonic anhydrase: a kinetic analysis, **Reza Khodarahmi** and Razieh Yazdanparast, Int. J. Biol. Macromol., 2005, 36, 191-197.

- 6- Artificial chaperone-assisted refolding of chemically denatured α -amylase, R. Yazdanparast, F. Khodagholi and **R. Khodarahmi**, *Int. J. Biol. Macromol.*, 2005, 35, 257-263.
- 7- Evaluation of artificial chaperoning behavior of an insoluble cyclodextrin-rich copolymer: Solid-phase assisted refolding of carbonic anhydrase, R. Yazdanparast and **R. Khodarahmi**, *Int. J. Biol. Macromol.*, 2005.
- 8- Protein Refolding Assisted by Molecular Tube based α -Cyclodextrin as an Artificial Chaperone, Yazdanparast, Esmaeli and **Khodarahmi**, *Biochemistry (Moscow)*, 2006, 71, 1298-1306.
- 9- Synthesis, in vitro antibacterial and carbonic anhydrase II inhibitory activities of N-acetylsulfonamides using silica sulfuric acid as an efficient catalyst under both solvent-free and heterogeneous conditions Ahmad Reza Massah, Hadi Adibi, **Reza Khodarahmi**, Ramin Abiri, Mohammad Bagher Majnooni, Sherita Shahidi, Beheshteh Asadi, Masomeh Mehrabi and Mohammad Ali Zolfigol, *Bioorganic & Medicinal Chemistry* 16 (2008) 5465–5472.
- 10- Appraisal of casein's inhibitory effects on aggregation accompanying carbonic anhydrase refolding and heatinduced ovalbumin fibrillogenesis, **Reza Khodarahmi**, Mehdi Beyrami , Hosnieh Soori , *Archives of Biochemistry and Biophysics* 477 (2008) 67–76.
- 11- Chaperone-like activity of Heme group against amyloid-like fibril formation by hen egg ovalbumin: Possible mechanism of action, **Reza Khodarahmi**, Hosnieh Soori and S. Arash Karimi, *International Journal of Biological Macromolecules*, Volume 44, Issue 1, 1 January 2009, Pages 98-106.
- 12- Heme, as a chaperone, binds to amyloid fibrils and forms peroxidase *in vitro*: Possible evidence on critical role of non-specific peroxidase activity in neurodegenerative disease onset/progression using the α -crystallin-based experimental system Original Research, *Archives of Biochemistry and Biophysics*, Volume 494, Issue 2, 15 February 2010, 205-215. **Reza Khodarahmi**, Fardin Naderi, Ali Mostafaie, Kamran Mansouri.
- 13- Spectroscopic study on the interaction of celecoxib with human carbonic anhydrase II: Thermodynamic characterization of the binding process Original Research Article *Journal of Photochemistry and Photobiology B: Biology*, Volume 97, Issue 3, 2 2009, 161-168, Masomeh Mehrabi, Sirous Ghobadi, **Reza Khodarahmi**.
- 14- Study of Cosolvent-Induced α -Chymotrypsin Fibrillogenesis: Does Protein Surface Hydrophobicity Trigger Early Stages of Aggregation Reaction? **Reza Khodarahmi**, Hosnieh Soori and Mojtaba Amani, *The Protein Journal*, 2009, Volume 28, Numbers 7-8, Pages 349-361.

15- Protein refolding assisted by molecular tube based α -cyclodextrin as an artificial chaperone, Raziieh Yazdanparast, Mohammad Ali Esmaeili and **Reza Khodarahmi**, Biochemistry (Moscow), 2006, Volume 71, Number 12, Pages 1298-1306.

16- Anti-angiogenic/proliferative behavior of a “4-aryl-4H-chromene” on blood vessel’s endothelial cells: A possible evidence on dual “anti-tumor” activity, Kamran Mansouri, **Reza Khodarahmi**, Alireza Foroumadi, Ali Mostafaie and Hamidreza Mohammadi Motlagh, Medicinal Chemistry Research, 2010, accepted.

17- Anti-Angiogenic Effect of Aqueous Extract of Shallot (*Allium ascalonicum*) Bulbs in Rat Aorta Ring Model, Hamid Reza Mohammadi Motlagh, Kamran Mansouri, Yadollah Shakiba, Maryam Keshavarz, **Reza Khodarahmi**, Abbas Siami, Ali Mostafaie. Yakhteh Medical Journal, Vol 11, No 2, 2009, Pages: 190-195.

18- Aqueous extract of shallot (*Allium ascalonicum*) can abolish in vitro angiogenesis through inhibition of vascular endothelial growth factor (VEGF) and matrix metalloproteinases 2 and 9 (MMP - 2, 9) expression, Delnia Arshadi, Kamran Mansouri, Parivash Seyfi, Yadollah Shakiba, **Reza Khodarahmi**, Ali Mostafaie, 2010, submitted.

19- Disease-related fibrillar aggregates may be detrimental via more than one route: A perspective on the mechanistic etiology of amyloid-related neurodegenerative disorders using the experimental *in vitro* models, **Reza Khodarahmi**, Zahra Hossein-pour, Kamran Mansouri, Sirous Ghobadi, Ali Mostafaie and Khirollah Yari, submitted.

20- Artemin as an efficient molecular chaperone: in vitro, in vivo and theoretical studies, S. Shirin Shahangian, Behnam Rasti, Reza H. sajedi, **Reza Khodarahmi**, Majid Taghdir, Bijan Ranjbar, 2010, submitted.

Membership of Scientific Societies and professional activities

- **Peer reviewer of Medicinal Chemistry Research (journal).**
- **Peer reviewer of preparative Biochemistry and Biotechnology (journal).**
- **Potential peer reviewer of Biochimica et Biophysica Acta (journal).**
- **Potential peer reviewer of Bioorganic and Medicinal Chemistry (journal).**
- **Member of Iranian Society of Biophysical Chemistry (ISOBC).**
- **Member of Iranian Society of Biochemistry.**

Courses Taught (Teaching experience)

A. Undergraduate

1. General Biochemistry
2. Metabolism

2001-2008 Biochemistry (Metabolism) for B.S. students at Azad and Razi University

2005-2008 Biochemistry (Metabolism) at Faculty of Pharmacy and Veterinary Medicine

B. Graduate (M. Sc.)

1. Enzymology
2. Enzyme Kinetics
3. UV-Vis and Fluorescence Spectroscopy
4. Molecular biology
5. Bioinformatics

Researches and Research Interests

1999-2000 Study on hemoglobin as a ligand for affinity chromatography under supervision of Dr. Hamid Rahi, Kermanshah University of medical Sciences, Kermanshah, Iran

2000-2001 National Project of "Expression and Purification of recombinant human interferon $\alpha 2b$ " in Pasteur Institute, under supervision of Dr. Mehr-aeen, Tehran, Iran.

2003-2005 Study on refolding strategies (Downstream of Biotechnology) under supervision of Dr. Yazdanparast, University of Tehran, Tehran, Iran

1- Protein aggregation, Amyloidosis and its inhibition

2- Protein-Ligand (Drug) interaction

3- Enzyme Kinetics and Inhibition

4- Angiogenesis and anti-angiogenic agents.

5- Evaluation of the effects of herbal compounds on angiogenesis.