

HAMZEH RAHIMI

CV (Curriculum Vitae)

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A. Personal Information

- ✓ **First Name:** Hamzeh
- ✓ **Last Name:** Rahimi
- ✓ **Date of Birth:** 21/09/1981
- ✓ **Place of birth:** Shahindezh, West Azarbaijan, Iran
- ✓ **Nationality:** Iranian
- ✓ **Sex:** Male
- ✓ **Marital Status:** Single
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B. Education

Degree	Field	Institution	Date
Ph.D.	Medical biotechnology	Pasteur institute of Iran http://fa.pasteur.ac.ir/pages.aspx?id=1243	2009-2013
Master of Science (M.Sc)	Medical biotechnology	Iran University of Medical Sciences (IUMS)	2005 – 2008
B.Sc.	Medical Laboratory's Sciences (Biomedicine)	Isfahan University of Medical Sciences (MUI)	2000-2004
Diploma	Empirical Sciences	Istaghlel High School	2000

C. Theses

Ph.D thesis

Hamzeh Rahimi, “Determinant of 3D structure of anaphase promoting complex subunits (APC2, APC3 and APC7) and design inhibitory compound for evolution their effects on Hela and MDA-MB-435 cell line”. Pasteur institute of Iran and Institute of Biochemistry & Biophysics (IBB), University of Tehran, Supervised by: Dr. Armin Madadkar-Sobhani and Dr. Mortaza Karimipour

M.Sc thesis

Hamzeh Rahimi, Design and construction of PJMB104-anxC3.1 and Pgem-anxC3.1-Egfp constructs and study overexpression effects on protein secretion in *A.niger*, Medical Biotechnology Department, Faculty of Paramedical Science, Iran University of Medical Sciences (IUMS), Supervised by Dr. Mohammad Morad Farajollahi & Dr. Vahid Kholaj, 2008.

D. Trainings Passed

D.I. Courses

- 2012. “ Structural Biotechnology and Protein Engineering”, NanoBioSimulation Group, Institute of Nanotechnology (INT), Karlsruhe Institute of Technology(KIT), Karlsruhe, Germany
- June & july 2008. “Technology & innovation Management in Biotechnology” , pasteur institute of Iran, Tehran–Iran.

D.II. Workshops

- 5-7 April 2011 “computational biology” National University of Singapore, IPM, Tehran–Iran.
- 7 April 2011 “computer science” National University of Singapore, IPM, Tehran –Iran.
- 23 April 2008 “safe application of biotechnology” Iranian Society for Biotechnology, Pasteur institute of Iran, Tehran–Iran.
- 24-27 june 2007 “7th theoretical and practical Bioinformatics” Iranian Molecullar Medicine Network, pasteur institute of Iran, Tehran–Iran.

- ✚ 22 September 2007 “Isolation and culture of stem cells” molecular & cellular research center in Tehran University of Medical Sciences (TUMS). Tehran–Iran
- ✚ 26 November 2006 “Diphtheria and Pertussis” Disease management center of ministry of health and microbiology research center in Pasteur Institute of Iran, Tehran–Iran.

E. Publications

E.I. Articles

- ✓ **Hamzeh Rahimi**, Armin Madadkar-Sobhani, Morteza Karimipour, Mohammad Ali Shokrgozar, Wolfgang Wenzel. A Structural Model of the Minimal Catalytic Subunits of the Anaphase Promoting Complex/Cyclosome. *BMC structural biology* (submitted)
- ✓ **Hamzeh Rahimi**, Ahmad Ahmadzadeh, Shamseddin Yousef-amoli, Armin Madadkar-Sobhani, Leila Kokabee, Alireza Foroumadi, Mohammad Ali Shokrgozar, Reza Mahdian, Morteza Karimipour. Expression pattern of Anaphase Promoting Complex in various cancer cell lines and AML patients. *Molecular Biology Report journal* (submitted)
- ✓ Habib Eslami Doolabi, **Hamzeh Rahimi**, Maryam Rahati, Ali M Sharifi. Protective effect of telmisartan against oxidative damage induced by high glucose in neuronal PC12 cell. *Neuroscience Letters* (In press)
- ✓ Kaveh Mohtashami, Eskander Omidinia, Babak Negahdari, **Hamzeh Rahimi**. Prediction of Tertiary Structure of Amorpho-4,11-Diene Synthase, the Key Enzyme Involved in Synthesis of the Anti-malaria compound Artemisinin. *Plos One* (submitted)
- ✓ Ali Ghafari, Babak Negahdari, Eskander Omidinia, **Hamzeh Rahimi**. Beta-lactamase protein family classification using sequence based features. *Protein science* (submitted)
- ✓ **Hamzeh Rahimi**, Mohammad Ali Shokrgozar, Armin Madadkar-Sobhani, Reza Mahdian, Alireza Foroumadi, Morteza Karimipour. Structural insight into anaphase promoting complex 3 structures and docking with a natural inhibitory compound. *Advanced Biomedical Research* | July - September 2013 | Vol 2 | Issue 3.

- ✓ **Rahimi H**, Foroumadi A, Shokrgozar MA, Mahdian R, Madadkar-Sobhani A, Karimipour M. Inhibitory Effects of Curcumin and 2-Methoxyestradiol on Anaphase Promoting Complex in Hela Cancer Cells. *J Isfahan Med Sch* 2013; 31(228): 255-64
- ✓ Marzieh Kafshdouzi Amin, **Hamzeh Rahimi**, Nematollah Gheibi , Morteza Karimipour. In silico design and optimization of Trk B receptor inhibitors in U266 Multiple Myeloma Cell line. *The Journal of Qazvin University of Medical Science*, Dec-Jan 2013, (In press)
- ✓ **H. Rahimi**, M.M. Farajollahi, S.A. Yazdanparast, M. Azizi, V. Khalaj, Cellular Localization of AnnexinC3.1 and the Effect of its Overexpression on Growth and Protein Secretion in *Aspergillus niger*. *Journal of Iran university of medical science*, vol 16, number 62, 121-129, Spring 2009. ISBN-1023-0920
- ✓ S.A. Yazdanparast , **H. Rahimi**, M. Farnoodian, Molecular Strain Typing of Trichophyton mentagrophytes Isolated from Patients with Dermatophytosis by Random Amplified Polymorphic DNA(RAPD). *Journal of Iran university of medical science*. vol 16, number 66, 36-42, December 2009.

E.II. Patents

- ✓ **Hamzeh Rahimi**, Mortaza Karimipour. Bioinformatics method for prediction 3D structure of protein complex.

E.III. Books

- ✓ **Rahimi H** & Barkhordari A. “Biochemistry for medicine student” Boshra & Tohfeh Publications, Tehran, Iran, 2009 .ISBN;978-964-399-175-3, National number:1669928. (in persian language)
- ✓ **Rahimi H** & Shamseddin J. “RNA interference” Edited by M.M. Farajollahi, Boshra Publications, Tehran, Iran, 2008. ISBN;978-964-8505-37-5, National number:1142324. (in persian language)
- ✓ **Rahimi H** & Rahimi Y. “ Organic chemistry” Edited by B. kafashi, Tohfeh publications, Tehran, Iran, 2007. ISBN;978-964-8505-36-8, National number:1149334. (in persian language)
- ✓ **Rahimi H** & Rostazadeh A. “Biochemistry for nurse” Edited by M.M. Farajollahi, Boshra Publications, Tehran, Iran, 2007. ISBN;978-964-399-101-2, National number:1032277.(in persian language)

F. Experiences

F.I. Teaching

- ✓ 27-30 February 2010 “Bioinformatics workshop” in Sharif University of Technology.
- ✓ 27-30 June 2010 “Immunoinformatics workshop” in Persian Bioinformatics System company
- ✓ 27-30 July 2010 “Bibliography workshop” in Persian Bioinformatics System company
- ✓ 2008. “Molecular & cellular biology” to student of medical laboratory of science, Tehran University of Medical Sciences (TUMS), Tehran–Iran. (One semester).
- ✓ 2008. “Biomedicine & bioinformatics” to specialist of various fields in medicine, jahad danshgahi in Tehran University of Medical Sciences (TUMS), Tehran–Iran. (One semester).
- ✓ 2009-2010. “Bioinformatics & computational drug design” to Ph.D student of molecular medicine, Golestan university of Medical Sciences, Gorgan–Iran. (Two semester).

F.II. Practical

A. Molecular & cellular biology techniques

- ✓ PCR based methods; conventional PCR, RAPD, ARMS-PCR, RT-PCR, PCR-RFLP and Real-Time PCR
- ✓ Gel electrophoresis in Horizontal and vertical (agarose and SDS-PAGE).
- ✓ Plasmid purification and preparation (small to large scale).
- ✓ Gene cloning; cutting & joining, design medium for clone selection
- ✓ Gene transference ; transformation in bacteria ,transformation to fungi and animal cell
- ✓ Bioassay; colorimetry, Densitometry, spectrofluorometry
- ✓ Protein analysis method; Western Blot, SDS-page
- ✓ cell culture
- ✓ Bacterial and fungi cultures
- ✓ cytotoxicity assay using MTT colorimetric method.

B. Computational skills

- ✓ Working knowledge of major OSs: Linux (RedHat, CentOS and Ubuntu), Windows (2000: Professional, XP: Home and Professional, Server 2003, Vista and 7)
- ✓ Working knowledge of office
- ✓ Reference manager software (EndNote, Mendeley)

C. Bioinformatics programs and databanks

- ✓ Working knowledge of all major molecular biology primary and secondary databases (Genbank, EMBL, UniProt, SWISS-PROT, PIR, Prosite, PDB, Entrez, OMIM, GeneCard and etc).
- ✓ Sequence alignment techniques (single and multiple) and programs (BLAST, Clustal, MEGA).
- ✓ PCR and Real-time PCR Primer or probe designing programs (Gene Runner, primer Express)
- ✓ Base calling and sequencing software (chromas, bioedit)
- ✓ Genetic engineering & cloning software (PDRAW32, CLONEWIN, Lasergene DNASTAR package)
- ✓ 2D gel analysis and quantification for proteins (Melanie v.7, ImageMaster 2D Platinum v.6)
- ✓ Pathway analysis

D. 3D structure prediction & computational drug design

- ✓ Working experience with molecular graphics (RasMol, WebLabViewer, Discovery Studio visualize, Deep View, VMD, UCSF Chimera,) programs.
- ✓ Molecular Dynamics (MD) simulations (Gromacs, NAMD).
- ✓ protein – protein interaction software (hex, rosettaDock, ClusPro)
- ✓ Ab initio protein structure prediction software (Rosetta3.1 package)
- ✓ Homology modeling program (Modeller)
- ✓ Computational drug design software (AutoDock, RosettaLigand, HyperChem, ChemOffice, vinaDock)

G. Research Projects

- ✓ 2006- 2008 “determination of CCR5 Δ 32 gene frequency in an Iranian population”, Code No: T.M/127, Department of medical biotechnology, Iran University of Medical Sciences (IUMS), Tehran, Iran
- ✓ 2008- 2009 “study the TLR8 polymorphisms (R733Q and M28V) in HIV positive and normal population of Iran”, Department of medical biotechnology, Iran University of Medical Sciences (IUMS), Tehran, Iran
- ✓ 2009-present “phylogentic analysis and 3D structure prediction of fliC protein for study fliC and TLR5 interaction”, Institute of Biochemistry & Biophysics (IBB), University of Tehran, Tehran
- ✓ 2011-2013 “Designing improved variant of bFGF(basic fibroblast growth factor)”, Code No: 1527, Department of medical biotechnology, Pasteur institute of Iran, Tehran, Iran

- ✓ 2011-2012 “Designing improved variant of hirudin”, Department of medical biotechnology, Pasteur institute of Iran, Tehran, Iran
- ✓ 2011-2012 “Design and composition of Textilinin derivate with computing method”, Pasteur institute of Iran, Tehran, Iran

H. Presentations

- ✓ **Hamzeh Rahimi**, vahid kholaj, mohammad Morad farajollahi, overexpresion and localization of anxc 3.1 gene in aspergillus niger, The 1nd international Conference on Health Genomics & Biotechnology, Tehran, Iran; 24-26 Nov 2008.
- ✓ Habib salami dolabi, **Hamzeh Rahimi**, Madadkar-Sobhani A. Homology modelling and molecular dynamics study of Thyroid-Stimulating Hormone (TSH). The 3nd Iranian Conference on Bioinformatics, Tehran, Iran; 5-6 January 2010.
- ✓ **Hamzeh Rahimi**, Behroz kashaf Bazazi, Madadkar-Sobhani A, Prediction of three-dimensional structure of flagellin from E. coli. The 3nd Iranian Conference on Bioinformatics, Tehran, Iran; 5-6 January 2010.
- ✓ M. Kafshdozi-Amin, **H. Rahimi**, M. Karimipoor, N. Gheibidi. Computational design of peptide as TrkB inhibitor. 32nd European Peptide Symposium, Athens, Greece; 2-7 September 2012.
- ✓ SeyedKaveh Mohtashami , **Hamzeh Rahimi**. Prediction of 3D structure of amorpho-4,11-diene synthase’s unique catalytic site paves the way for engineering the enzyme for biotechnological aims. Fourth Iranian Conference on bioinformatics, National Institute of Biotechnology and Genetic engineering, Tehran; November 6-7 , 2012
- ✓ Marzieh Kafshdouzi-Amin, **Hamzeh Rahimi**, Nematollahe Gheibi Morteza Karimipoor. Computational study of linear and Circular Peptides docking as inhibitor of trk b receptor. Fourth Iranian Conference on bioinformatics, National Institute of Biotechnology and Genetic engineering, Tehran; November 6-7 , 2012.
- ✓

I. Students Supervised

➤ M.Sc student

- ✓ Marzieh Kafshdouzi-Amin, Design Of Peptide Agonist Trk B Receptor And Assessment Effect On The U266, RPMI-8226, Ovc3-3, Skov-3 Cells, 2010-2013, Qazvin Medical school.
- ✓ Elnaz Aledavood, In Silico designing of improved variant of Recombinant urate oxidase and in Vitro Study of The Best variant activity. 2013 – Continue. Iranian Blood Transfusion Organization (IBTO).
- ✓ Maryam Ensi, In Silico designing of improved variant of recombinant Keratinocyte Growth Factor and In Vitro expression of the best variant activity. 2013 – Continue. Iranian Blood Transfusion Organization (IBTO).

➤ Ph.D student

- ✓ Sayd Mahdi Sajadi, In Silico Designing of recombinant Cystein Variants of Hirudin and In Vitro Study of the Variant PEGylation. 2013- , IBTO
- ✓ Elham Rismani, Studying the effect of inhibiting peptides against LRPs in proliferation and apoptosis of colon cancer cell lines, 2013- , Pasteur Institute of Iran.

J. Honors, Awards and Inventions

- ❖ “subatical Scholarship”; Ministry of Health and Medical Education, (2012),
- ❖ Membrance of student research committee, Pasteur institute of Iran
- ❖ Top student (ranked 1nd) in board exam of Ph.D in medical biotechnology in pasteure institute of Iran (2010)
- ❖ Ranked 2nd in national entrance Ph.D. exam of ministry of health & medical education in 2008
- ❖ Ranked 2nd in national entrance Master of Science (M.Sc) exam of ministry of health & medical education in 2005

K. Professional Memberships

Iranian Society for Biotechnology

L. Research Interests

- Design and production of biopharmaceutical agent
- Bioinformatics & Chemoinformatics
- Cell cycle regulation mechanism in cancer
- Structural system biology and pathway analysis

M. Cultural & Social Activities

- A) The effect of technology on human life;
- B) human's freedom ;
- C) Editing scientific books & papers;
- D) Member of student research committee in Pasteur institute of Iran

N. Institution

- ❖ 2008 – Present, Scientific adviser of Persian Bioinformatics System company.

o. References

Prof. Wolfgang Wenzel

(Supervisor of my sabbatical course)

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Germany

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Dr. Armin Madadkar-Sobhani

(Supervisor of my Ph.D. Dissertation)

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Spain

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Dr. Mortaza Karimipour

(Supervisor of my Ph.D. Dissertation)

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Dr. Mohammad Morad Farajollahi

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