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Proteomics Research Center, Faculty of Paramedical Sciences, Shaihd Beheshti University of Medical Sciences, Tehran, IRAN

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EDUCATION

2002 **Ph.D. of Biophysics**, University of Tehran, IRAN

Thesis title: *Thermodynamic study of human Transferrin (apo and holo) structure in presents and absences of Sodium Dodecyl Sulfate*

1993 **M.S. of Biophysics**, University of Tehran, IRAN

Thesis title: *Biophysical chemistry study of pigeon hemoglobin-several anionic and cationic detergents reciprocal effect*

1989 **B.S. of Biology**, Shahid Chamran University, Ahvaz, IRAN

RESEARCH INTERESTS

Clinical proteomics, Protein-protein interaction, Cancer Proteomics

EXPERIENCE

Teaching experience:

- Supervision and monitoring of graduate students during their thesis research
- Biophysics course for none-science majors
- Advanced Biophysics course for graduate students
- Cell culture course for graduate students
- Cellular and Molecular Biology for undergraduate students
- Bioinformatics for graduate students

Academic and administrative experience

- Research manager of Shahid Beheshti University of Medical Sciences (2011 - present)
- Head of Proteomics Research Center of Shahid Beheshti University of Medical Sciences (2011 - present)
- Professor of Biophysics (2014- present)

PUBLICATIONS

Selected Books in Persian language

- Biomarker discovery: Liquid chromatography, electrophoresis and microarray
M. Rezaei-Tavirani, H. Hassnzadeh, Z. Fazeli, A. Meyfor, A. Safaei and M. Sohilli-Kashani (2015)
- Fundamental and methods of Biophysics
M. Rezaei-Tavirani, M.Rahmati-Roodsari, SA Mortazavi-Tabatabaei, M Zamanian-Azodi (2012)
- Biophysics
M. Rezaei-Tavirani, S. Hesami-Tacalo (2012)
- Artificial neural networks
Mostafa Rezaei Tavirani, Alireza Zali, Seyed Hasan Moghadamnia, Mohammad hosein Heydari, Behroz Hoseinzade Salavati, Fateme Daneshi mehr (2010)
- Proteomics
M.Rezaei-Tavirani, A.Marashi, F. Ghalanbor, M.Mostafavi (2009)

Chapter of international book

1: Cell Biology and Translational Medicine

Akram Tayanloo-Beik, Amirabbas Nikkhah, Peyvand Parhizkar Roudsari, Hamidreza Aghayan, **Mostafa Rezaei-Tavirani**, Ensieh Nasli-Esfahani, Ahmad Rezazadeh Mafi, Mohsen Nikandish, Fatemeh Fazeli Shouroki, Babak Arjmand & Bagher Larijani (2022)

2: Cell Biology and Translational Medicine

Bagher Larijani, Najmeh Foroughi-Heravani, Setareh Alaei, **Mostafa Rezaei-Tavirani**, Sepideh Alavi-Moghadam, Moloud Payab, Parisa Goodarzi, Akram Tayanloo-Beik, Hamid Reza Aghayan, Babak Arjmand, Larijani, Bagher, Foroughi-Heravani, Najmeh, Alaei, Setareh, Rezaei-Tavirani, Mostafa, Alavi-Moghadam, Sepideh, Payab, Moloud, Goodarzi, Parisa, Tayanloo-Beik, Akram, Aghayan, Hamid Reza, Arjmand, Babak (2021)

3: Genomics, Proteomics, and Metabolomics

- A) Saeed Heidari-Keshel, Azam Rahimi, **Mostafa Rezaei-Tavirani**, Farshid Sefat, Arash Khojasteh (2019)
- B) Saeed Heidari-Keshel, **Mostafa Rezaei-Tavirani**, Azam Rahimi, Farshid Sefat, Arash Khojasteh (2019)

HONORS AND AWARDS

Shahid Beheshti University of Medical Sciences Outstanding Researcher Award (2011)
Top Faculty member of Shahid Beheshti University of Medical Sciences (2009)
Health Ministry of IRAN Outstanding Researcher Award (2004)
Health Ministry of IRAN Outstanding Researcher Award (2003)
Top National Ph.D. student (2001)

CONFERENCES ATTENDED (SELECTED)

M. Rezaei-Tavirani, Reza Vafaei, Mona Zamanian-Azodi, *Investigation of smart responses of human serum albumin in fever condition: an in vitro approach*, San Francisco, California, USA, February, 2014.

USA (Biophysical Journal Vol.104, No2, page 217a.)

M. Rezaei-Tavirani, R. Tadayon, M. Shahani. *Fine Structural Analysis of Human Serum Albumin*, First International Conference on Biophysical Chemistry, Ardabil University of Medical Sciences, Ardabil, Iran, June 13-15, 2012.

Sadegh Babashah, Masoud Soleimani, Majid Sadeghizadeh, Abbas Hajifathali, **Mostafa Rezaei Tavirani** and Mojtaba Ghadiani. *High-throughput Q-RT-PCR-based detection of microRNAs; a promising novel clinical tool for leukemia diagnosis and therapy* The 5th International & 10th National Congress on Quality Improvement in Clinical Laboratory Tehran, Iran, April 23-26, 2012 (Laboratory & Diagnosis Vol.3, No74, Supplement Issue, page 12)

M Rezaei-Tavirani, H.Zali and S.H. Moghadamnia. *Introducing human Calprotectin as a potent anticancer with minimal side effect*. 10th Iranian Congress of Biochemistry and 3rd International Congress of Biochemistry and Molecular Biology. Tehran, Iran, November 16-19, 2009.

S. Kalantari, S.H. Moghadam-Nia, **M. Rezaei-Tavirani**, A. Shabani and S. Z. Moosavi-Nejad. *Inhibition of Adenosine Deaminase activity by Spermine* 14th National & 2th International Conference of Biology, Tarbiat Modares University, Tehran, Iran, August 29-31, 2006.

S.H. Moghaddamnia, S. Mahdavi, F. Towhidkhan, **M. Rezaei-Tavirani**, Sh. Gharibzadeh and A. Shabani. *Modeling gap junction behavior in myocytes: electrical field versus electrical coupling*, 29th European Peptide Symposium, Gdansk, Poland, September 3-8, 2006 (Journal of Peptide Science Vol.12, Suppl. S, page 189.)

M. S. Atri, **M. Rezaei-Tavirani**, M. H. Sanati, A. A. Saboury and A. A. Moosavi-Movahedi. *Structural study of human growth hormone: A thermodynamic and spectroscopic approach*, 49th Annual Meeting of Biophysical Society, Long Beach, California, USA, 12-16, 2005 (Biophysical Journal Vol.88, No2, page 212a.)

S.H. Moghaddamnia, **M. Rezaei-Tavirani**, B. Ranjbar, S. Z. Moosavi-Nejad and S. Hesami-Tackallou. *Thermal predenaturation (conformational change) of human adenosine deaminase (ADA)*, 3rd Annual World Congress of HUPO, Beijing, China, October 25-27, 2004 (Molecular & Cellular Proteomics Vol.3, No10, page 241s.)

M. Rezaei-Tavirani, and A.A. Moosavi-Movahedi. *Apo transferring domain analysis by sodium n-dodecyl sulphate as a probe*, 46th Annual Meeting of Biophysical Society, San Francisco, California, USA, , 2002 (Biophysical Journal Vol.82, No1, page 458a.)

S. Z. Moosavi-Nejad, **M. Rezaei-Tavirani**, A.A. Moosavi-Movahedi, G. Floris and A. Padiglia, *The effect of proline and erythritol on the structural aspects of lentil seedling amino oxidase*, Fourth European symposium of the Protein Society, Institute Pasteur, Paris, France, 18-22 April, 2001 (Protein Science Vol.10, Suppl.1, page 60)

M.J. Morvarid and **M. Rezaei-Tavirani**. *Study of conformation changes in hemoglobin a using cationic and anionic surfactants*, 18th International Congress of Biochemistry and Molecular Biology, Birmingham, UK, July 16–20, 2000.

M. Rezaei-Tavirani, B. Ranjbar and A.A. Moosavi-Movahedi. *Time dependency of thermal denaturation for human apotransferrin*, Third European symposium of the Protein Society, Garmisch-Partenkirchen, Germany, 19-22 September, 1999 (Protein Science Vol.8, Suppl.2, page 60)

A.A. Moosavi-Movahedi, **M. Rezaei-Tavirani** and Z. Zaidi. *A novel and simple spectroscopic method for determination of protein transition states*, 38th Annual Meeting of Biophysical Society, New Orleans, Louisiana, USA, 6-10, 1994 (Biophysical Journal Vol.66, No2, page 394a.)

SELECTED ARTICLES

Amine oxidase from lentil seedlings: energetic domains and effect of temperature on activity
SZ Moosavi-Nejad, **M Rezaei-Tavirani**, A Padiglia, G Floris, AA Moosavi-Movahedi
Journal of protein chemistry 2001, 20 (5), 405-411

Thermodynamic domain analysis of fresh and incubated human apotransferrin
M Rezaei-Tavirani, AA Moosavi-Movahedi, AA Saboury, GH Hakimelahi, B Ranjbar ...
Thermochimica acta 2002, 383 (1), 103-108

Design, synthesis, and biological evaluation of a cephalosporin–monohydroguaiaretic acid prodrug activated by a monoclonal antibody– β -lactamase conjugate
GH Hakimelahi, KS Shia, M Pasdar, S Hakimelahi, A Khalafi-Nezhad, MN Soltani , **M Rezaei-Tavirani**...
Bioorganic & medicinal chemistry 2002,10 (9), 2927-2932

Thermodynamic studies on the interaction of nickel with human serum albumin
A A. SABOURY, FH KISHANI, **M R-Tawirani**, B Ranjbar Prog. Biochem. Biophys. 2003, 30 (005), 732-737

Domain analysis of human apotransferrin upon interaction with sodium n - dodecyl sulphate: differential scanning calorimetry and circular dichroism approaches
M Rezaei-Tavirani, AA Moosavi-Movahedi, SZ Moosavi-Nejad, J Chamani, D Ajloo
Thermochimica acta 2003, 408 (1), 9-16

Calorimetric, spectrophotometric and circular dichroism studies on the impact of sodium dodecyl sulfate on the mushroom tyrosinase structure
F Karbassi, K Haghbeen, AA Saboury, **M Rezaei-Tavirani**, B Ranjbar Biologia 2004, 59 (3), 319-326

Binding properties and conformational change of human growth hormone upon interaction with Fe₃
MS Atri, AA Saboury, **M Rezaei-Tavirani**, MH Sanati, AA Moosavi-Movahedi, M ...
Thermochimica acta 2005, 438 (1), 178-183

Conformational study of human serum albumin in pre-denaturation temperatures by differential scanning calorimetry, circular dichroism and UV spectroscopy
M Rezaei-Tavirani, SH

Moghaddamnia, B Ranjbar, M Amani, S Marashi Journal of biochemistry and molecular biology 2006, 39 (5), 530

Binding properties and structural changes of human growth hormone upon interaction with cobalt ion AA Saboury, H Ghourchaei, MH Sanati, MS Atri, **M Rezaei-Tavirani**, GH Hakimelahi Journal of Thermal Analysis and Calorimetry 2007, 89 (3), 921-927

Mitochondrial DNA might be influenced in calprotectin-induced cell death SA Marashi, **M Rezaei-Tavirani**, MA Shokrgozar, H Zali EXCLI Journal 2008, 7, 163-168

Human Calprotectin, a Potent Anticancer with Minimal Side Effect **M Rezaei-Tavirani**, H Zali, S Nasiri, MA Shokrgozar Iranian journal of cancer prevention 2009, 2 (4), 183-188

Types of neural guides and using nanotechnology for peripheral nerve reconstruction

Esmaeil Biazar, M T Khorasani, Naser Montazeri, Khalil Pourshamsian, Morteza Daliri, **Mostafa Rezaei**, Mahmoud Jabarvand, Ahad Khoshzaban, Saeed Heidari, Mostafa Jafarpour, Ziba Roviemiab Int J Nanomedicine, 2010, 21(5), 839-852

Mechanical Properties of Chitosan-Starch Composite Filled Hydroxyapatite Micro- and Nanopowders Jafar Ai, **Mostafa Rezaei-Tavirani**, Esmaeil Biazar, Saeed Heidari K, and Rahim Jahandideh Journal of Nanomaterials, 2011

Aberrant microRNA expression and its implications in the pathogenesis of leukemias S Babashah, M Sadeghizadeh, **M Rezaei-Tavirani**, S Farivar, M Soleimani Cellular Oncology 2012, 35 (5), 317-334

Evaluation of unrestricted somatic stem cells as a feeder layer to support undifferentiated embryonic stem cells SH Keshel, M Soleimani, **M Rezaei-Tavirani**, M. Ebrahimi, R. Raeisossadati, H. Yasaei, D. Afsharzadeh, M. Jabbarvand Behroz, A. Atashi, S. Amanpour, A. Khoshzaban, R. Roozafzoon, G. R. Behrouzi Molecular Reproduction and Development 2012, 79 (10) 709-718

Bone formation in calvarial defects by injectable nanoparticulate scaffold loaded with stem cells E Biazar, S Heidari Keshel, M Rezaei Tavirani and R Jahandideh Expert Opin. Biol. Ther., 2013, 1744-7682.

Targeting of the signal transducer Smo links microRNA-326 to the oncogenic Hedgehog pathway in CD34+ CML stem/progenitor cells S Babashah, M Sadeghizadeh, A Hajifathali, **M Rezaei-Tavirani**, MS Zomorod, M. Ghadiani, M. Soleimani International Journal of Cancer, 2013, 133 (3) 579-589

Exploring biological processes involved in embryonic stem cell differentiation by analyzing proteomics data M Jafari, M Mirzaie, M Sadeghi, SA Marashi, **M Rezaei-Tavirani** Biochimica et Biophysica Acta (BBA)-Proteins and Proteomics, 2013, 1834 (6) 1063-1069

Evolutionarily conserved motifs and modules in mitochondrial protein-protein interaction networks M Jafari, M Sadeghi, M Mirzaie, SA Marashi, **M Rezaei-Tavirani** Mitochondrion, 2013, 13 (6) 668-675

Assessment of gene set analysis methods based on microarray data H Alavi-Majd, S Khodakarim, F Zayeri, **M Rezaei-Tavirani**, S M Tabatabaei, M H Meymeh Gene, 2014, 534 (2) 383-389.

Regeneration of Full-Thickness Skin Defects Using Umbilical Cord Blood Stem Cells Loaded into Modified Porous Scaffolds R Zeinali, E Biazar, SH Keshel, **M Rezaei-Tavirani**, K Asadipour ASAIO Journal, 2014, 60 (1) 106-114

Bone reconstruction in rat calvarial defects by chitosan/hydroxyapatite nanoparticles scaffold loaded with unrestricted somatic stem cells E Biazar, S Heidari Keshel, **M Rezaei-Tavirani**, R Jahandideh Artificial Cells, Nanomedicine, and Biotechnology, 2015, 43 (2), 112-116

The metabolomics of airway diseases, including COPD, asthma and cystic fibrosis BF Nobakht M. Gh, R Aliannejad, **M Rezaei-Tavirani**, S Taheri, ... Biomarkers, 2015, 20 (1), 5-16

Protein Clustering and Interactome Analysis in Parkinson and Alzheimer's Diseases. **M Rezaei-Tavirani**, M Zamanian-Azodi, S Rajabi, A Masoudi-Nejad, ... Archives of Iranian Medicine (AIM), 2016, 19 (2), 101-109

NMR-and GC/MS-based metabolomics of sulfur mustard exposed individuals: a pilot study B Fatemeh Nobakht, Rasoul Aliannejad, **Mostafa Rezaei-Tavirani**, Afsaneh Arefi Oskouie, Mohammad Taghi Naseri, Hadi Parastar, Ghazaleh Aliakbarzadeh, Fariba Fathi, Salman Taheri Biomarkers, 2016, 21 (6), 479-489

Identification of potential predictive markers of dexamethasone resistance in childhood acute lymphoblastic leukemia Nasrin Dehghan-Nayeri, **Mostafa Rezaei-Tavirani**, Mir Davood Omrani, Ahmad Gharehbaghian, Kouros Goudarzi Pour, Peyman Eshghi Journal of cell communication and signaling, 2017, 11 (2), 137-145

The metabolomics and lipidomics window into thyroid cancer research R Farrokhi Yekta, **M Rezaie Tavirani**, A Arefi Oskouie, MR Mohajeri-Tehrani, AR Soroush Biomarkers, 2017, 22 (7), 595-603

Deciphering the transcription factor-microRNA-target gene regulatory network associated with graphene oxide cytotoxicity Masoumeh Farahani, **Mostafa Rezaei-Tavirani**, Hakimeh Zali, Afsaneh Arefi Oskouie, Meisam Omid, Alireza Lashay Nanotoxicology, 2018, 12(9), 1014-1026

Resveratrol: A miraculous natural compound for diseases treatment Mehdi Koushki, Nasrin Amiri-Dashatan, Nayebali Ahmadi, Hojjat-Allah Abbaszadeh, **Mostafa Rezaei-Tavirani** Food Science & Nutrition, 2018, 6 (8), 2473-2490

Identification of the key genes of autism spectrum disorder through protein-protein interaction network Mona Zamanian Azodi, **Mostafa Rezaei-Tavirani**, Majid Rezaei-Tavirani Galen Medical Journal, 2019, 8, 1367

Proteomics Approaches Applied to Regenerative Medicine: Perspectives in Stem Cell Proteomics Saeed Heidari-Keshel, **Mostafa Rezaei-Tavirani**, Azam Rahimi, Farshid Sefat, Arash Khojasteh Genomics, Proteomics, and Metabolomics , 2019, 107-121

Systematic Analysis of Protein–Protein and Gene–Environment Interactions to Decipher the Cognitive Mechanisms of Autism Spectrum Disorder M Farahani, **M Rezaei-Tavirani**, A Zali, M Zamanian-Azodi Cellular and Molecular Neurobiology, 2020, 1-13

Critical complications of COVID-19: A descriptive meta-analysis study Kimia Vakili, Mobina Fathi, Aiyoub Pezeshgi, Ashraf Mohamadkhani, Mohammadreza Hajiesmaeili, **Mostafa Rezaei-Tavirani**, Fatemeh Sayehmiri Reviews in cardiovascular medicine, 2020, 21 (3), 433-442

A systematic review of microRNA expression studies with exposure to bisphenol A M Farahani, **M Rezaei-Tavirani**, B Arjmand Journal of Applied Toxicology, 2021, 41 (1), 4-19

The prognostic value of comorbidity for the severity of COVID-19: A systematic review and meta-analysis study M Fathi, K Vakili, F Sayehmiri, A Mohamadkhani, M Hajiesmaeili, **Mostafa Rezaei-Tavirani** , Owring Eilami Plos one, 2021, 16 (2), e0246190

The contribution of gut-brain axis to development of neurological symptoms in COVID-19 recovered patients: A hypothesis and review of literature Kimia Vakili, Mobina Fathi, Shirin Yaghoobpoor, Fatemeh Sayehmiri, Yasaman Nazerian, Amirhossein Nazerian, Ashraf Mohamadkhani, Pariya Khodabakhsh, Gislaine Z Réus, Ramtin Hajibeygi, **Mostafa Rezaei-Tavirani** Frontiers in Cellular and Infection Microbiology, 2022, 12, 983089

Antiproliferative and apoptotic effects of conditioned medium released from human amniotic epithelial stem cells on breast and cervical cancer cells Ameneh Jafari1, Hassan Niknejad, **Mostafa Rezaei-Tavirani**, Ramin Sarrami-Forooshani, Samira Gilanchi and Zahra Jafari International Journal of Immunopathology and Pharmacology, 2023, 37, 1-10

WORKS IN PROGRESS

- 1- Proteomic and Metabolomic evaluation of Obsessive Compulsive Disorder
- 2- Bio-compatible wound dressing for repairing skin lesions: Trauma, Burn, and Cancer.

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

- a) Secretary of Iranian Medical Proteomics Society.
- b) Member of Shahid Beheshti University of Medical Sciences Secretary of the University Board of Auditors (2020-2021)

Google Scholar Profile

<https://scholar.google.com/citations?user=AqWrNJ8AAAAJ>