

Yousof Gheisari



Current Position

Associate professor, Isfahan
University of Medical Sciences

Head of Regenerative Medicine
Research Center (rmrc.mui.ac.ir)

Scientific Profile

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Summary

My research team is interested in the molecular aspects of kidney injury and drug target identification for diabetic nephropathy using both classical and systems biology approaches. We also investigate the mechanisms of tissue repair and specially the contribution of polyploid cells in regeneration.

Education

- 2010: Research fellow in kidney regeneration, Jikei University School of Medicine, Tokyo, Japan
- 2003-2010: PhD of medical biotechnology, Pasteur Institute of Iran
- 1996-2003: MD, Isfahan University of Medical Sciences (IUMS)

Capabilities

- Core knowledge and skills in classical and systems biology
- Research methodology, experiment design, and biostatistics
- Scientific presentation and writing
- Research mentorship
- Inter-disciplinary collaboration and networking

Supervision and Teaching

- Supervisor of 2 PhD, 9 MSc, and 3 MD completed theses
- Supervisor of 1 PhD and 4 MSc ongoing theses
- Teaching genetic engineering, molecular biology, experiment design, bioinformatics, and systems biology courses for post-graduate students
- Teaching molecular biology for medical students

Management Experience

- 2018-2021: Manger of university research affairs, IUMS
- 2017-2019: Director of physician-scientist program, IUMS
- 2015-2019: Supervisor of students' research committee, IUMS
- 2014: Founding regenerative medicine research center, IUMS
- 2008-2013: Chair of the board, SABZ Biomedicals science-based company

Selected Publications

- Motahharynia A, Moein S*, Kiyanpour F, Moradzadeh K, Yaqubi M, Gheisari Y. **Olfactory receptors contribute to progression of kidney fibrosis.** NPJ Syst Biol Appl. 2022
- Borhani N, Ghaisari J*, Abedi M, Kamali M, Gheisari Y*. **A deep learning approach to predict inter-omics interactions in multi-layer networks.** BMC Bioinformatics. 2022
- Abedi M, Marateb HR, Mohebian MR, Aghaee-Bakhtiari SH, Nassiri SM, Gheisari Y*. **Systems biology and machine learning approaches identify drug targets in diabetic nephropathy.** Sci Rep. 2021
- Gholaminejad A, Gheisari Y, Jalali S, Roointan A*. **Comprehensive analysis of IgA nephropathy expression profiles: identification of potential biomarkers and therapeutic agents.** BMC Nephrol. 2021
- Gholaminejad A, Roointan A, Gheisari Y*. **Transmembrane signaling molecules play a key role in the pathogenesis of IgA nephropathy: a weighted gene co-expression network analysis study.** BMC Immunol. 2021
- Samadi M, Gheisari Y*. **A nurturing environment for teaching molecular biology to medical students.** J Educ Health Promot. 2021
- Roointan A, Gheisari Y, Hudkins KL, Gholaminejad A*. **Non-invasive metabolic biomarkers for early diagnosis of diabetic nephropathy: Meta-analysis of profiling metabolomics studies.** Nutr Metab Cardiovasc Dis. 2021
- Gholaminejad A, Gheisari Y, Jalali S, Roointan A*. **Comprehensive analysis of IgA nephropathy expression profiles: identification of potential biomarkers and therapeutic agents.** BMC Nephrol. 2021
- Moein S, Nickaeen N, Roointan A, Borhani N, Heidary Z, Javanmard SH, Ghaisari J*, Gheisari Y*. **Inefficiency of SIR models in forecasting COVID-19 epidemic: a case study of Isfahan.** Sci Rep. 2021
- Moein S, Adibi R, da Silva Meirelles L, Nardi NB, Gheisari Y*. **Cancer regeneration: Polyploid cells are the key drivers of tumor progression.** Biochim Biophys Acta Rev Cancer. 2020
- Moein S, Moradzadeh K, Javanmard SH, Nasiri SM, Gheisari Y*. **In vitro versus in vivo models of kidney fibrosis: Time-course experimental design is crucial to avoid misinterpretations of gene expression data.** J Res Med Sci 2020
- Moradzadeh K, Nassiri SM, Gheisari Y*. **Valproic acid restores the down-regulation of SDF-1 following kidney ischemia; experimental validation of a mathematical prediction.** Res Pharm Sci. 2020
- Samadi M, Tabibian F, Moradzadeh K, Nassiri SM, Gheisari Y*. **Evaluating the effect of remote ischemic preconditioning on kidney ischemia–reperfusion injury.** Journal of Research in Medical Sciences 2020
- Kiyanpour F, Abedi M, Gheisari Y*. **A systematic integrative approach reveals novel microRNAs in diabetic nephropathy.** Journal of Research in Medical Sciences 2020

- Nickaeen N, Ghaisari J*, Moein S, Gheisari Y*. **Bifurcation Analysis of a modular model of Embryonic Kidney Development.** Biosystems. 2020
- Nickaeen N, Ghaisari J*, Heiner M, Moein S, Gheisari Y*. **Agent-based modeling and bifurcation analysis reveal mechanisms of macrophage polarization and phenotype pattern distribution.** Sci Rep. 2019
- Abedi M, Fatehi R, Moradzadeh K, Gheisari Y*. **Big Data to Knowledge: Common Pitfalls in Transcriptomics Data Analysis and Representation.** RNA Biol. 2019
- Moradzadeh K, Gheisari Y*. **The analysis of a time-course transcriptome profile by systems biology approaches reveals key molecular processes in acute kidney injury.** J Res Med Sci 2019
- Moradzadeh K, Moein S, Nickaeen N, Gheisari Y*. **Analysis of time-course microarray data: Comparison of common tools.** Genomics. 2018
- Rabieian R, Moein S, Khanahmad H, Mortazavi M, Gheisari Y*. **Transcriptional noise in intact and TGF-beta treated human kidney cells; the importance of time-series designs.** Cell Biol Int. 2018
- Aghayan HR, Arjmand B, Ahmadbeigi N, Gheisari Y, Vasei M*. **Draft of Iranian National Guideline for Cell Therapy Manufacturing.** Arch Iran Med. 2017
- Fatehi R, Khosravi S, Abedi M, Salehi R, Gheisari Y*. **Heterozygosity analysis of polycystic kidney disease 1 gene microsatellite markers for linkage analysis of autosomal dominant polycystic kidney disease type 1 in the Iranian population.** J Res Med Sci 2017
- Rabieian R, Abedi M, Gheisari Y*. **Central nodes in protein interaction networks drive critical functions in transforming growth factor beta-1 stimulated kidney cells.** Cell J. 2017
- Moein S, Javanmard SH, Abedi M, Izadpanahi MH, Gheisari Y*. **Identification of appropriate housekeeping genes for gene expression analysis in long-term hypoxia-treated kidney cells.** Adv Biomed Res. 2017
- Gheisari Y, Ahmadbeigi N. **Mesenchymal Stem Cells and Endothelial Cells: A Common Ancestor?** Arch Iran Med. 2016
- Gheisari Y, Vasei M, Shafiee A, Soleimani M, Seyedjafari E, Omidkhoda A, Langroudi L, Ahmadbeigi N*. **A Three-Dimensional Scaffold-Based System for Modeling the Bone Marrow Tissue.** Stem Cells Dev. 2016
- Heidary Z, Ghaisari J, Moein S, Naderi M, Gheisari Y*. **Stochastic Petri Net Modeling of Hypoxia Pathway Predicts a Novel Incoherent Feed-Forward Loop Controlling SDF-1 Expression in Acute Kidney Injury.** IEEE Trans Nanobioscience. 2016
- Abedi M, Gheisari Y*. **Nodes with high centrality in protein interaction networks are responsible for driving signaling pathways in diabetic nephropathy.** PeerJ. 2015
- Moghadasali R, Azarnia M, Hajinasrollah M, Arghani H, Nassiri SM, Molazem M, Vosough A, Mohitmafi S, Najarasl M, Ajdari Z, Yazdi RS, Bagheri M, Ghanaati H, Rafiei B, Gheisari Y, Baharvand H, Aghdami N. **Intra-renal arterial injection of autologous bone marrow**

mesenchymal stromal cells ameliorates cisplatin-induced acute kidney injury in a rhesus Macaque mulatta monkey model. Cytotherapy. 2014

- Gheisari Y, Ahmadbeigi N, Aghaee-Bakhtiari S.H, Nassiri S.M, Amanpour S, Azadmanesh K, Hajarizadeh A, Mobarra Z, Soleimani M*. **Human Unrestricted Somatic Stem Cell Administration Fails to Protect Nude Mice from Cisplatin-Induced Acute Kidney Injury.** Nephron Exp Nephrol 2013
- Ahmadbeigi N, Soleimani M*, Vasei M, Gheisari Y, Mortazavi Y, Azadmanesh K, Omidkhoda A, Janzamin E, Beyer Nardi N. **Isolation, Characterization and Transplantation of Bone Marrow derived cell component with Hematopoietic Stem Cell Niche properties.** Stem Cells Dev. 2013
- Ahmadbeigi N, Soleimani M*, Babaeijandaghi F, Mortazavi Y, Gheisari Y, Vasei M, Azadmanesh K, Rostami S, Shafiee A, Nardi NB. **The aggregate nature of human mesenchymal stromal cells in native bone marrow.** Cytotherapy. 2012
- Gheisari Y, Azadmanesh K, Ahmadbeigi N, Nassiri SM, Fahim Golestaneh A, Naderi M, Vasei M, Arefian E, Mirab-Samiee S, Shafiee A, Soleimani M, Zeinali S*. **Genetic modification of mesenchymal stem cells to overexpress CXCR4 and CXCR7 does not improve the homing and therapeutic potentials of these cells in experimental acute kidney injury.** Stem Cells Dev. 2012
- Matsumoto K, Yokoo T*, Matsunari H, Iwai S, Yokote S, Teratani T, Gheisari Y, Tsuji O, Okano H, Utsunomiya Y, Hosoya T, Okano HJ, Nagashima H, Kobayashi E. **Xenotransplanted Embryonic Kidney Provides A Niche for Endogenous Mesenchymal Stem Cell Differentiation into Erythropoietin-Producing Tissue.** Stem Cells. 2012
- Gheisari Y, Baharvand H, Nayernia K, Vasei M*. **Stem Cell and Tissue Engineering Research in the Islamic Republic of Iran.** Stem Cell Rev. 2012
- Arefian E, Kiani J, Soleimani M, Shariati SA, Aghaee-Bakhtiari SH, Atashi A, Gheisari Y, Ahmadbeigi N, Banaei-Moghaddam AM, Naderi M, Namvarasl N, Good L, Faridani OR. **Analysis of microRNA signatures using size-coded ligation-mediated PCR.** Nucleic Acids Res. 2011
- Ahmadbeigi N, Shafiee A, Seyedjafari E, Gheisari Y, Vassei M, Amanpour S, Amini S, Bagherizadeh I, Soleimani M. **Early spontaneous immortalization and loss of plasticity of rabbit bone marrow mesenchymal stem cells.** Cell Prolif. 2011
- Ahmadbeigi N, Soleimani M*, Gheisari Y, Vasei M, Amanpour S, Bagherizadeh I, Shariati SA, Azadmanesh K, Amini S, Shafiee A, Arabkari V, Nardi NB. **Dormant Phase and Multinuclear Cells: Two Key Phenomena in Early Culture of Murine Bone Marrow Mesenchymal Stem Cells.** Stem Cells Dev. 2010
- Gheisari Y, Ahmadbeigi N, Naderi M, Nassiri SM, Nadri S, Soleimani S*. **Stem Cell Conditioned Medium Does Not Protect Against Kidney Failure.** Cell Biol Int. 2010
- Gheisari Y, Yokoo T*, Matsumoto K, Fukui A, Sugimoto N, Ohashi T, Kawamura T, Hosoya T, Kobayashi E. **A thermoreversible polymer mediates controlled release of glial cell line-derived neurotrophic factor to enhance kidney regeneration.** Artif Organs. 2010

- Gheisari Y, Nassiri SM, Arefian E, Ahmadbeigi N, Azadmanesh K, Jamali M, Jahanzad I, Zeinali S, Vasei M, Soleimani M*. **Severely damaged kidneys possess multipotent renoprotective stem cells.** Cytotherapy. 2010
 - Ahmadbeigi N, Seyedjafari E, Gheisari Y, Atashi A, Omidkhoda A, Soleimani M*. **Surface expression of CXCR4 in unrestricted somatic stem cells and its regulation by growth factors.** Cell Biol Int. 2010
 - Gheisari Y, Soleimani M*, Zeinali S, Arefian E, Atashi A, Zarif MN. **Isolation of stem cells from adult rat kidneys.** Biocell. 2009
 - Gheisari Y, Soleimani M, Azadmanesh K, Zeinali S*. **Multipotent mesenchymal stromal cells: optimization and comparison of five cationic polymer-based gene delivery methods.** Cytotherapy. 2008
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