Curriculum vitae

Prof. Massoud Vosough, MD, PhD

ORCID: 0000-0001-5924-4366

- Dean, Regenerative Medicine Department,

Royan Institute for Stem Cell Science and Regenerative Medicine

- Chair, National Scientific Board in Applied Cell Science,

Ministry of Health and Medical Education

- Senior Associated Researcher,

Experimental Cancer Medicine, Institution for Laboratory Medicine, Karolinska Institute, Stockholm, Sweden

- Member of National Medical Council of Iran, Since 2001

Tehran University of Medical Science, member of Alumni club

Education:

- 1993-2001, School of Medicine, Tehran University of Medical Science (TUMS),
- 2005-2007, Medical laboratories, BTT Co. Technique and methods,
- 2008-2013, Joint PhD Program, Biotech Department, Pasteur Institute, and Department of Stem Cells and Regenerative Medicine, Royan institute, Tehran, Iran,
- 2013-2016, Postdoctoral Research Fellow, Cell Transplantation and Regenerative Medicine, Supervisor: Prof. Stephen Strom; Karolinska Institute, Stockholm, Sweden,
- 2015 January-March, FELECA- B & C, Advanced and Practical Laboratory Animal Model Course, Karolinska Institute, Huddinge, Sweden.
- 2015 April-July, Advanced Regenerative Medicine Course, joint program, Karolinska Institute, Solna, Sweden and Mayo Clinic, Rochester, USA.

Professional activities:

- 2009-2013, Research assistant, Advanced Differentiation lab., Royan Institute
- 2010-Present, Project Supervisor, Clinical studies in Gastrointestinal and Liver disorders, Regenerative Medicine Department, Cell Therapy Center, Royan Institute
- 2011-2013, Cell therapy center, Royan Institute, Lab facility and QC manager
- 2015 December-Present, Faculty member and Head of liver and gastrointestinal diseases research program, Royan Institute for Stem Cell Biology.
- 2015 December-Present, Course organizer for Master and PhD students in regenerative Medicine, Royan Institute, Tehran University, TUMS, and SBUM.
- 2016 May- Present, Deputy of Quality and Regulatory affairs manager, Cell Tech Pharmed Company, since 2017. The first cGMP approved clinical grad cell and cell-derivatives production facility for production of ATMPs.
- 2019 July- Present, Head of Regenerative Medicine Department and Cell therapy center, Royan Institute for Stem Cell Biology and Regenerative Medicine
- 2021- present, Senior Research Affiliate, Karolinska Institute, Huddinge, Sweden
- 2022 September, Associate Professor in Regenerative Medicine
- 2023 October, Chair, National Scientific Board in Applied Cell Science

Professional interests:

- Liver Regenerative Medicine; Application of Bio-engineered Liver Organoids in Drug Screening/Disease Modeling, and Toxicology.
- Stem/Progenitor Cell-Based Therapies in Liver Fibrosis/Cirrhosis; Clinical studies

- "Differentiation Therapy" approach in GI & Liver Cancers, Using Advanced Molecular/targeted-based Approaches.
- Regenerative Medicine in IBDs, (UC & CD), PSC-IBD and Refractory Crohn's Disease, Basic and Clinical Studies.
- Biology of Pluripotent stem cells (iPSCs & ESCs), Reprogramming of somatic cells, Differentiation to Hepatocytes in 2D and 3D, Scale-up production.

Recent Publications:

1. XBP1 as a novel molecular target to attenuate drug resistance in hepatocellular carcinoma, Zahra Hendi, Pedram Asadi Sarabi, David Hay, **Massoud Vosough**, 2023/12/13, Expert Opinion on Therapeutic Targets,
2. Enhanced intracellular accumulation and cytotoxicity of bortezomib against liver cancer cells using N-stearyl lactobionamide surface modified solid lipid nanoparticles,

   Farid Mostafaei, Muhammad Sarfraz, Shukoofeh Torabi, Behzad Baradaran, **Massoud Vosough**, Parvin Zakeri-Milani; 2023/11/23 International Journal of Pharmaceutics
3. Autophagy orchestrates resistance in hepatocellular carcinoma cells,

   Homeyra Seydi, Kosar Nouri, Niloufar Rezaei, Atena Tamimi, Moustapha Hassan, Hamed Mirzaei, **Massoud Vosough**, 2023/5/1, *Biomedicine & Pharmacotherapy*
4. Co-delivery of doxorubicin and paclitaxel via noisome nanocarriers attenuates cancerous phenotypes in gastric cancer cells,

   Niloufar Rezaei, Hamid Asadzadeh Aghdaei, Nikoo Hossein-Khannazer, **Massoud Vosough**; 2023/7/1, *European Journal of Pharmaceutics and Biopharmaceutics*
5. (-)-Epigallocatechin-3-gallate induced apoptosis by dissociation of c-FLIP/Ku70 complex in gastric cancer cells,

Mahtab Shahriari Felordi, Mehdi Alikhani, Hamidreza Aboulkheyr, Abbas Piryaei, Mustapha Najimi, **Massoud Vosough**; 2023/9; *Journal of Cellular and Molecular Medicine*

6. Immunotherapeutic approaches in Hepatocellular carcinoma: Building blocks of hope in near future, Neda Minaei, **Massoud Vosough**, 2022/12/17; *European Journal of Cell Biology*

7. HNF4α is Possibly the Missing Link between Epithelial-Mesenchymal Transition and Warburg Effect during Hepatocarcinogenesis; Bahare Shokouhian, **Massoud Vosough**; 2022/12/7, *Cancer Science*

8. Mimicking the liver function in micro-patterned units: Challenges and perspectives in 3D-Bioprinting; Zahra Heydari, …., **Massoud Vosough**; 2022/4/26; *Bioprinting*

9. In vitro modeling of liver fibrosis in 3D microtissues using scalable micropatterning system; Ensieh Zahmatkesh, …., **Massoud Vosough**, Andreas Nussler; 2022/4/2; *Archives of Toxicology*

10. Natural Scaffolds Used for Liver Regeneration: A Narrative Update; Masoud Vazirzadeh, **Massoud Vosough**, Kamran Ghaedi; 2022/3/23; *Stem Cell Reviews and Reports*

11. Extraembryonic Mesenchymal Stromal/Stem Cells in Liver Diseases:

    A Critical Revision of Promising Advanced Therapy Medicinal Products;

    Mohammad Amin Shahrbaf, **Massoud Vosough**; 2022/3/23; *Cells*

12. Mesenchymal stromal cell therapy improves refractory perianal fistula in Crohn's disease: case series clinical interventional study; **Massoud Vosough**, Mehdi Mohamadnejad; 2022/2; *Cell Journal*

13. PSC associated inflammatory bowel disease: A distinct entity; Alireza Beheshti-Maal, **Massoud Vosough**; 2022/2/1; *Expert Review of Gastroenterology & Hepatology*

14. Hepatic stellate cell activation by TGFβ induces hedgehog signaling and endoplasmic reticulum stress simultaneously; Roya Solhi, **Massoud Vosough**; 2022/1/18; *Toxicology in Vitro*

15. Rhenium Perrhenate (188ReO4) Induced Apoptosis and Reduced Cancerous Phenotype in Liver Cancer Cells; Samieh Asadian, ……., **Massoud Vosough**; 2022/1; *Cells*

16. The role of non-coding RNAs in chemotherapy for gastrointestinal cancers; Fatemeh Dashti, **Massoud Vosough**, Neda Rahimian, Michael R Hamblin, Hamed Mirzaei; 2021/12/3; *Molecular Therapy-Nucleic Acids*

17. Autophagy and gastrointestinal cancers: the behind the scenes role of long non-coding RNAs in initiation, progression, and treatment resistance; Rana Shafabakhsh, **Massoud Vosough**, Hamed Mirzaei; 2021/12; *Cancer Gene Therapy*

18. Advanced therapeutic modalities in hepatocellular carcinoma: Novel insights; Bahare Shokoohian, **Massoud Vosough**; 2021/9; *Journal of cellular and molecular medicine*

19. Metabolic hallmarks of liver regeneration; Roya Solhi, **Massoud Vosough**; 2021/9/1; *Trends in Endocrinology & Metabolism*

20. Tissue-specific microparticles improve organoid microenvironment for efficient maturation of pluripotent stem-cell-derived hepatocytes; Ensieh Zahmatkesh, **Massoud Vosough**; 2021/6; *Cells*

21. Evolution of organoid technology: Lessons learnt in Co-Culture systems from developmental biology; Ensieh Zahmatkesh, **Massoud Vosough**; 2021/7/1; *Developmental Biology*

Honors and Grants

- National PhD scholarship, full coverage. 2008
- Awarded for the best abstract in the 17th International Society for Differentiation conference in Amsterdam, the Netherlands, 2012
- Featured article and cover page of Stem Cell and Development, Vol. 20/22.2013
- Fellowship program in EU-funded research project, HUMAN - health and the understanding of metabolism, aging and nutrition, October 2013 –May2016
- Scientific chair of 12th Royan international congress in stem cell biology and technology, September 2016, Tehran
- National grant from Pars-Isotope for new radioisotope in HCC treatment
- National grant from Cancer institute for differentiation therapy in HCC

- National grant from Cancer foundation charity, 2018
- National grant from Academy of Science, 2019
- International grant, DAAD, NIMAD, Germany-Iran exchange program, 2020
- International grant, Iran-Russia joint research program, 2021
- Featured article and cover page of Trends in Endocrinology & Metabolism 2021
- Featured article and cover page of Bio-Design and Manufacturing 2021
- Featured article and cover page of Journal of Molecular Medicine 2023
- The 1st market authorization for ATMP-based commercial product in Iran, July 2023