



Brief Overview

Hany E. Marei, Ph.D., Professor of Cytology and Histology, Project Manager, Biomedical Research Center, Qatar University

Hany Marei, Ph.D. is a full professor since 2005, and he worked as the Head of Cytology and Histology Department, Faculty of Veterinary Medicine, Mansoura University, Mansoura, Egypt (1996 - May 2015). From May 2015 he moved to Qatar where he works as a project manager for Biomedical Research Center (BRC) at Qatar University (QU). His research interest lies in the field of gene expression, pathway analysis, and genetic profiling of stem cells.

He published more than 55 papers (PLOS, Genomics, Molecular Cancer, JCP, Oncotarget, Spinal Cord) on genetic profiling of adult human olfactory bulb neural stem cells (OBNSCs) and Glioblastoma Cancer stem cells. He also published many papers about the therapeutic potential of human olfactory bulb neural stem cells (OBNSC) for neurodegenerative and traumatic diseases including Alzheimer's, Parkinson's (PD) and spinal cord injury (SCI). He developing pre-clinical models to use OBNSC in the treatment of AD, PD and SCI. He is specially interested in exploring the molecular mechanism underlying Alzheimer's disease (AD), and identification of common and rare variants (SNPs) associated with AD.

In 2016, he published a book chapter (with Bentham Science Publishers (eBook series "Frontiers in Clinical Drug Research-Alzheimer Disorder; Vol. 4" entitled "**Recent perspective about the amyloid cascade hypothesis and stem cell-based therapy in the treatment of Alzheimer's disease**".

He also published a book entitled **“Human Olfactory Bulb Neural Stem Cells for Cell-based Therapy of Traumatic and Neurodegenerative CNS Disorders**, LAMBERST, 2016.

Regarding genomics, he recently published a review article entitled **“Common and Rare Genetic Variants Associated With Alzheimer's Disease, J Cell Physiol”**, 2016, and met-analysis study entitled **“Landscape of NAT2 polymorphisms among breast cancer**, Biomed. Pharmacotherapy, 2016.

Dr. Marei is an editorial board member for: American Journal of Current Genetics, Accounts of Biotechnology Research, Journal of Pediatric Oncology, Journal of Cytology and Tissue Biology, Journal of Stem Cell Research, Journal of Alzheimer's & Dementia, and Examines in Physical Medicine & Rehabilitation (EPMR), Research Advances in Brain Disorders and Therapy, Research & Investigations in Sports Medicine, Current Chemical Genomics and Translational Medicine.

He is a reviewers in several international indexed journals such as Journal of Tissue Engineering and Regenerative Medicine, BMC Veterinary Research, Cell Transplantation, Journal of Cellular Physiology, Scientific Reports, and Theranostics (IF: 8.766).

He served as a member for promotion of professor and associate professor at the Supreme Council of Universities, Egypt (2012-2015).

He had defended more than 20 master and PhD thesis in Biomedical sciences, and reviewers for more than 100 papers in the field of Biomedical research. He published more than 50 papers in regional and international indexed journals.

Recently, Prof. Marei had awarded a grant funded by the Gulf Corporation Countries (GCC) program about the “Use of patient-specific iPSC to study stroke in GCC and Qatar”. This grant aims to generate iPSCs from Qatari stroke patients, differentiate them into different cell types relevant to stroke

such as endothelial cells, thrombocytes, neurons, and to use RNA seq (transcriptome) to identify dysregulated pathways between stroke patients and their mimics. His latest work entitled “**Genetically unmatched human iPSC and ESC exhibit equivalent gene expression and neuronal differentiation potential**” is currently under publication. In 2018, Prof Marei has awarded a major project entitled “**FCy Chimeric Receptor T cells and monoclonal antibodies for Glioblastoma multiform immunotherapy: In vitro and in vivo Studies**”. His research efforts is now concentrating on understanding basic immunology and translational research including clinical trials for evaluating the effects of immunotherapy in vitro, in vivo and in patients with primary brain tumors. The main aim of his research goals is to promotes and supports collaborations across the basic, translational, and clinical research spectrum to develop novel therapeutics for individuals with primary central nervous system malignancies that will globally influence the field.

Detailed CV:

Hany El-Sayed Marei, M.V.Sc, Ph.D.

Ph.D. in Cytology and Histology, Joint between Virginia-Maryland Regional Collage of Veterinary Medicine, Virginia Tech, USA and Suez Canal University, Ismailia, Egypt (Nov. 1990 - May 1992)

Master of Cytology and Histology, Suez Canal University, Ismailia, Egypt (June. 1986- May 1990).

Bachelor of Veterinary Medicine (ranking 5th), Alexandria University, Collage of Veterinary Medicine (Sept. 1980 - June 1985)

Positions:

- Project Manager, QUBRC, Qatar (2015-present).
- PI for Lab Accreditation ISO 15189 Project.
- Professor, Head of Cytology and Histology Department, (2000-2015).
- Manager of Quality Assurance and Accreditation Unit.
- Manager of Central Veterinary Diagnostic lab.
- PI for Neural Stem Cells Project (STDF-funded).
- PI for Lab Accreditation ISO 17025 Project.
- PI of DVM and ISO 9001 Accreditation Project.
- Director for Central Lab for Veterinary Molecular Diagnosis, 2012-2015.
- Manager of E-Learning Unit, Faculty of Veterinary Medicine, Mansoura University, Egypt, 2008- 2012.

Positions:

- Project manager, Biomedical Research Center, Qatar University (May 2015-present).
- Department Head of Cytology and Histology, Mansoura University, Egypt (March. 2005-2015).
- Professor Cytology and Histology Department, Mansoura University, Egypt
- Acting as a Department Head of Cytology and Histology (Aug. 2000 - Mar. 2005)

- Assistant Professor of Cytology and Histology, Mansoura University (Oct. 1999- Feb 2005)
- Virginia-Maryland Regional Collage of Veterinary Medicine, Virginia Tech, USA (May. 1992 - May. 1994), **Ph.D. in Cytology Joint between Virginia-Maryland Regional Collage of Veterinary Medicine, Virginia Tech, USA and Suez Canal University, Ismailia, Egypt (Nov. 1990 - May 1992)**
- Assistant Lecturer of Cytology and Histology, Suez Canal University, Ismailia, Egypt (June. 1986- May 1990).
- Bachelor of Veterinary Medicine (ranking 5th), Alexandria University, Collage of Veterinary Medicine (Sept. 1980 - June 1985)

Management and Committee Member at Qatar University:

- Member of Thematic Taskforce for Health Cluster, Qatar University, 2015.
- Member of committee for Interdisciplinary Graduate Research Institute Initiative”, Qatar University, 2016
- Member of Research International Ranking Committee, Qatar University, 2016.
- Member of the Institutional Bio-safety Committee, Qatar University, 2016.

Teaching Experiences (Courses Taught):

- Histology for Clinical Pharmacy (Faculty of Pharmacy, Mansoura University, Egypt).
- Cytology and Histology for Veterinary Students (Faculty of Veterinary Medicine, Mansoura University, Egypt).
- Cytology and Histology for Veterinary Students, Virginia-Maryland Regional Collage of Veterinary Medicine, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA.
- Practical Histology for first year veterinary medical students at Virginia-Maryland Regional Collage of Veterinary Medicine, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA.
- Histology for Clinical Pharmacy Students, Faculty of Pharmacy, Mansoura University.

Editor and Reviewer:

- Senior Editorial Board (SEB) Member of the American Journal of Current Genetics
- Editorial Board Member of Accounts of Biotechnology Research.
- Editorial Board Member of Journal of Pediatric Oncology
- Editor in Journal of Stem Cell Research.
- Journal of Cytology and Tissue Biology
- International Journal of Zoological Investigations.
- Henry Journal of Cytology and Histology
- Journal of Cytology and Histology
- Cancer Biology & Treatment
- SciTz Stem Cells Research & Therapy
- **Journal of Stem Cell Research,**
- **Journal of Alzheimer's & Dementia,**
- **Examines in Physical Medicine & Rehabilitation (EPMR),** Research Advances in Brain Disorders and Therapy,
- Research & Investigations in Sports Medicine
(<http://crimsonpublishers.com/rism/editorial-board.php#>)

Promotion Committees in Arab Countries:

- Reviewed Promotion file for King Abdul-Aziz University, Saudi Arabia.
- Reviewed Promotion file for El Basra University, Iraq.

Reviewer for International Indexed Journals:

- Scientific Reports
- Cell Transplantation
- Journal of Tissue Engineering and Regenerative Medicine
- BMC Veterinary Research
- Cell Biology International
- Chemical Neuroanatomy
- World Journal of Surgical Oncology
- Theranostics (IF: 8.766)

Promotion committee for assistance professors and professors

- Member of the promotion committee for Assistant Professors and Professors, Supreme Counsel of Universities, Egypt.

- Reviewer for more than 100 papers.
- Evaluation Committee for 20 Assistant Professors and Professors.
- Reviews for five projects about Stem Cells.

Publications:

1. Osman, A.H.K., Abuzeid, S.M., Eidaroos, H. and **Marei, H.E.** (1990): Histogenesis of the uterus of the Egyptian water buffalo (*Bos bubalis* L.). Zagazig Vet, J. 18 (3): 167-180
2. Smith, S.A., Caceci, T., **Marei, H.E.** and El-Habback, H.A. (1995): Observations on rodlet cells found in the vascular system and extravascular space of angelfish (*Pterophyllum Scalare Scalare*). 4. **International J. Fish Biology 46: 241- 254**
3. **Marei H.E.** (1996). Distribution of ANP–producing cells in the heart of *Oreochromis niloticus*: An ultrastructural and immunohistochemical study. Assiut Vet. J 35 (70), 234-265.
4. **Marei H. E.** and Osman A.H. K. (1996). An ultrastructural and immunohistochemical study of the chicken’s endocrine heart. Assiut Vet. J. 35 (70), 176-187.
5. **Marei H.E.** (1997). The effects of seasonal variation on the structure of the seminiferous epithelium and the testicular interstitial gland cells of goat. Egypt.J. Histol. 21 (1), 75-88
6. **Marei H.E.** and H. A. EL. Habback (1997). Ultrastructure of the luminal immunocompetent cells of the chicken’s air Passageways. Cairo Vet. Med. J., 47(2), 277-289
7. **Marei H. E.** (1998). Prenatal differentiation of the epididymal ductal epithelium in camels. Cairo Vet.Med. J., 47 (2), 277-289
8. El- Habback H.A and **Marei H. E.** (1998). The possible origin and function of rodlet cell: In *Oreochromis Niloticus*. Egypt. J. Histol. 20 (1), 135-150
9. Youssef G. A. and **Marei H. E.** (1999). Immunohistochemical localization of S-100 protein and its subunits in bovine exocrine glands. Zagazig Vet. Med. J., 26 (3), 161-175
10. **Marei H. E.** and El-Gawad M.A, (2001). Differentiation of ciliated cells in the terminal bronchioles of neonatal calves. **European Journal of Morphology 39 (5): 269-276**
11. **Marei H. E.** and El- Habback, H.A (2002) Ultrastructure of the non-ciliated bronchiolar epithelial (Clara) cells in the lungs of neonatal rabbits. Mansoura Medical Veterinary Journal 4 (2): 169-183

12. **Marei H. E.** (2002) Fine structure and immunohistochemical localization of cardiac hormones (ANP) in the right atrium and hypothalamus of white rat. *European Journal of Morphology* **40** (1): **37-41**
13. **Marei H. E.** (2003) Ultrastructure of mitochondria-rich cells in the gill epithelium of oreochromis niloticus. Mansoura Medical Veterinary Journal 5 (1): 1-2
14. El- Habback, H.A; Emara, S. A. and Marei H. E.S. (2003) Light and electron microscopic studies on the posterior kidney of Oreochromis niloticus. Mansoura Medical Veterinary Journal 5 (1): 111-132
15. **Marei H. E.** and El- Habback, H.A. (2003) Ultrastructural and immunohistochemical localization of ANP-producing cells in the heart of rabbits. Mansoura Medical Veterinary Journal 5 (2): 1-23
16. **Marei H. E.** (2003) Structure of the spleen of the Nile tilapia (*Oreochromis niloticus*): light and electron microscopic studies. Mansoura Medical Veterinary Journal 5 (1): 154-133
17. Osman AH, Yuge S, Hyodo S, Sato S, Maeda S, **Marei H E**, Caceci T, Birukawa N, Urano A, Nature K, Naruse M, Takei Y (2004) Molecular identification and immunohistochemical localization of atrial natriuretic peptide in the heart of the dromedary camel (*Camelus dromedaries*). *Comp Biochem Physiol A Mol Integ. Physiol.* 2004 Dec; 139(4):417-24.
18. Abd-Elmaksoud A, Sayed-Ahmed A, Mohamed SE, Mohamed K, **Marei HE.** (2008) Morphological and glycohistochemical studies on the epididymal region of the Sudani duck (*Cairina moschata*). *Res Vet Sci.* 2008 Jun 27.
19. **Marei HE**, Althani A, Afifi N, Michetti F, Pescatori M, et al. (2011) Gene Expression Profiling of Embryonic Human Neural Stem Cells and Dopaminergic Neurons from Adult Human Substantia Nigra. *PLoS ONE* 6(12): e28420. doi:10.1371/journal.pone.002842024.
20. **Marei HE**, Ahmed A-E, Michetti F, Pescatori M, Pallini R, et al. (2012) Gene Expression Profile of Adult Human Olfactory Bulb and Embryonic Neural Stem Cell Suggests Distinct Signaling Pathways and Epigenetic Control. *PLoS ONE* 7(4): e33542. doi:10.1371/journal.pone.0033542
21. **Marei HE**, Abd-Elmaksoud Ahmed (2012) Transcription factors expressed in embryonic and adult olfactory bulb neural stem cells reveals distinct proliferation, differentiation and epigenetic control. DOI information: 10.1016/j.ygeno.2012.09.006

22. **Marei HE**, Althani A, Afifi N, Camilla Bernardini, Fabrizio Michetti, Marta Barba Mario Pescatori, Giulio Maira, Emanuela Paldino, Luigi Manni, Patrizia Casalbore, and Carlo Cenciarelli (2013) Over-expression of hNGF in Adult Human Olfactory Bulb Neural Stem Cells Promotes Cell Growth and Oligodendrocytic Differentiation. *PLoS One*. 2013 Dec 19;8(12):e82206. doi: 10.1371/journal.pone.0082206. eCollection 2013.
23. **Marei HE**, Farag A, Althani A, Afifi N, Abd-Elmaksoud A, Lashen S, Rezk S, Pallini R, Casalbore P, Cenciarelli C. (2015) Human Olfactory Bulb Neural Stem Cells expressing hNGF Restore Cognitive Deficit in Alzheimer's Disease Rat Model. *J Cell Physiol*. 2015 Jan;230(1):116-30. doi: 10.1002/jcp.24688.
24. **Marei HE**, Samah Lashen, Amany Farag, Asma Althani, Nahla Afifi, Abd-Elmaksoud A, Shaymaa Rezk, Roberto Pallini, Patrizia Casalbore, and Carlo Cenciarelli (2014) Human Olfactory Bulb Neural Stem Cells Mitigates Movement Disorders in a Rat Model of Parkinson's disease. *J Cell Physiol*. 2014 Dec 23. doi: 10.1002/jcp.24909. [Epub ahead of print].
25. Abd-Elmaksoud A, Shoeib MB, **Marei HE** (2014) Localization of S-100 proteins in the testis and epididymis of poultry and rabbits. *Anat Cell Biol*. 2014 Sep;47(3):180-7. doi: 10.5115/acb.2014.47.3.180. Epub 2014 Sep 23.
26. Carlo Cenciarelli, **Marei HE**, Manuela Zonfrillo, Pasquale Pierimarchi, Emanuela Paldino, Patrizia Casalbore, Armando Felsani, Angelo Luigi Vescovi, Giulio Maira, and Annunziato Mangiola (2014) PDGF Receptor Alpha Inhibition Induces Apoptosis in Glioblastoma Cancer Stem Cells Refractory to Anti-Notch and Anti-EGFR Treatment. *Mol Cancer*. 2014 Nov 8;13:247. doi: 10.1186/1476-4598-13-247.
27. **Marei HE**, Althani A, Rezk S, Farag A, Lashen S, Afifi N, Abd-Elmaksoud A, Pallini R, Casalbore P, Cenciarelli C, Caceci T. (2016) Therapeutic potential of human olfactory bulb neural stem cells for spinal cord injury in rats. *Spinal Cord*. 2016 Feb 16. doi: 10.1038/sc.2016.14. [Epub ahead of print]
28. El Zowalaty ME, Al Thani AA, Webster TJ, El Zowalaty AE, Schweizer HP, Nasrallah GK, **Marei HE**, Ashour HM. (2015). *Pseudomonas aeruginosa*: arsenal of resistance mechanisms, decades of changing resistance profiles, and future antimicrobial therapies. *Future Microbiol*. 2015;10(10):1683-706. doi: 10.2217/fmb.15.48. Epub 2015 Oct 6.

29. Althani AA, **Marei HE**, Hamdi WS, Nasrallah GK, El Zowalaty ME, Al Khodor S, Al-Asmakh M, Abdel-Aziz H, Cenciarelli C. (2016) Human Microbiome and its Association With Health and Diseases. *J Cell Physiol.* 2016 Aug;231(8):1688-94. doi: 10.1002/jcp.25284. Epub 2016 Feb 11. Review.
30. **Marei HE**, Althani A, Suhonen J, El Zowalaty ME, Albanna MA, Cenciarelli C, Wang T, Caceci T. (2015) Common and rare variants associated with Alzheimer's disease. *J Cell Physiol.* 2016 Jul;231(7):1432-7. doi: 10.1002/jcp.25225. Epub 2015 Dec 17. Review.
31. Wang T, **Marei HE**. (2015) Landscape of NAT2 polymorphisms among breast cancer. *Biomed Pharmacother.* 2016 Feb;77:191-6. doi: 10.1016/j.biopha.2015.12.011. Epub 2015 Dec 29.
32. Cenciarelli C, **Marei HE**, Felsani A, Casalbore P, Sica G, Puglisi MA, Cameron AJM, and Mangiola A.(2016). Deletion of PDGFR α attenuates glioblastoma stem cells features by modulation of STAT3, RB1 and multiple oncogenic signals. Accepted in *Oncotarget*.
33. Massimo Sartelli, **Marei HE** et al (2016) Antimicrobials: A Global Alliance for Optimizing their Rational Use in Intra-Abdominal Infections (AGORA). *World Journal of Emergency Surgery* 11:33.
34. Cenciarelli C, Marei HE, Felsani A, Casalbore P, Sica G, Puglisi MA, Cameron AJ, Olivi A, Mangiola A. (2016) PDGFR α depletion attenuates glioblastoma stem cells features by modulation of STAT3, RB1 and multiple oncogenic signals. *Oncotarget.* 2016 Jun 17. doi: 10.18632/oncotarget.10132. [Epub ahead of print]
35. H. El-Tahry, **Marei HE**, Shams A, Abd El-kader M (2016) The Effect of Triiodothyronine on Maturation and Differentiation of Oligodendrocyte Progenitor Cells during Remyelination Following Induced Demyelination in Male Albino Rat. *Tissue and Cell* 48(3). DOI: 10.1016/j.tice.2016.03.001
36. Sartelli, Massimo, **Marei HE** et al. "Antimicrobials: a global alliance for optimizing their rational use in intra-abdominal infections (AGORA)." *World Journal of Emergency Surgery* 11.1 (2016): 33.
37. **Marei HE**, Elnegiry AA, Zaghoul A, Althani A, Afifi N, Abd-Elmaksoud A, Farag A, Lashen S, Rezk S, Shouman Z, Cenciarelli C, Hasan A. (2017) Nanotubes impregnated human olfactory bulb neural stem cells promote neuronal differentiation in Trimethyltin-induced neurodegeneration rat model. *J Cell Physiol.* 2017 Dec;232(12):3586-3597. doi: 10.1002/jcp.25826. Epub 2017 May 18.
38. Cenciarelli C, **Marei HE**, Zonfrillo M, Casalbore P, Felsani A, Giannetti S, Trevisi G, Althani A, Mangiola A. (2017) The interference of

Notch1 target Hes1 affects cell growth, differentiation and invasiveness of glioblastoma stem cells through modulation of multiple oncogenic targets. *Oncotarget*. 2017 Mar 14;8(11):17873-17886. doi: 10.18632/oncotarget.15013.

39. Hasan A, Deeb G, Rahal R, Atwi K, Mondello S, **Marei HE**, Gali A, Sleiman E. (2017) Mesenchymal Stem Cells in the Treatment of Traumatic Brain Injury. *Front Neurol*. 2017 Feb 20;8:28. doi: 10.3389/fneur.2017.00028. eCollection 2017. Review.

40. **Marei HE**, El-Gamal A, Althani A, Afifi N, Abd-Elmaksoud A, Farag A, Cenciarelli C, Thomas C, Anwarul H. (2017) Cholinergic and dopaminergic neuronal differentiation of human adipose tissue derived mesenchymal stem cells. *J Cell Physiol*. 2017 Mar 30. doi: 10.1002/jcp.25937. [Epub ahead of print].

41. **Marei HE**, Shouman Z, Althani A, Afifi N, A AE, Lashen S, Hasan A, Caceci T, Rizzi R, Cenciarelli C, Casalbore P. (2017) Differentiation of human olfactory bulb-derived neural stem cells toward oligodendrocyte. *J Cell Physiol*. 2017 May 13. doi: 10.1002/jcp.26008. [Epub ahead of print]

42. Sohail MU, Althani A, Anwar H, Rizzi R, Marei HE. (2017) Role of the Gastrointestinal Tract Microbiome in the Pathophysiology of Diabetes Mellitus. *J Diabetes Res*. 2017;2017:9631435. .

43. Marei HE, Althani A, Lashen S, Cenciarelli C, Hasan A. (2017) Genetically unmatched human iPSC and ESC exhibit equivalent gene expression and neuronal differentiation potential. *Sci Rep*. 2017 Dec 13;7(1):17504. doi: 10.1038/s41598-017-17882-1.

44. Marei HE, A. Hasan, R. Rizzi, A. Althani, N. Afifi, C. Cenciarelli, Thomas Caceci and Ashfaq Shuaib (2018) Potential of Stem Cell-Based Therapy for Ischemic Stroke. *Front. Neurol.*, 06 February 2018, <https://doi.org/10.3389/fneur.2018.00034>.

45. Marei HE, Patrizia Casalbore, Asmaa Althani, Valentina Coccè, Samah Lashen, Carlo Cenciarelli, Giulio Alessandri, Anna Brini, Eugenio Parati, and Augusto Pessina (2018) Human olfactory bulb neural stem cells (Hu-OBNSCs) can be loaded with paclitaxel and used to inhibit glioblastoma cell growth. *Scientific Reports* (under Review).

46. Hasan A, Byambaa B, Morshed M, Cheikh MI, Shakoor RA, Mustafy T, Marei HE. (2018) Advances in osteobiologic materials for bone substitutes. *J Tissue Eng Regen Med*. 2018 Jun;12(6):1448-1468. doi: 10.1002/term.2677. Epub 2018 May 21. Review.

47. Martini M, de Pascalis I, D'Alessandris QG, Fiorentino V, Pierconti F, Marei HE, Ricci-Vitiani L, Pallini R, Larocca LM. (2018)

VEGF-121 plasma level as biomarker for response to anti-angiogenetic therapy in recurrent glioblastoma. *BMC Cancer*. 2018 May 10;18(1):553. doi: 10.1186/s12885-018-4442-2.

48. Hasan A, Soliman S, El Hajj F, Tseng YT, Yalcin HC, Marei HE. Fabrication and In Vitro Characterization of a Tissue Engineered PCL-PLLA Heart Valve. *Sci Rep*. 2018 May 29;8(1):8187. doi: 10.1038/s41598-018-26452-y.

49. El-Magd MA, Khalifa SF, A Alzahrani FA, Badawy AA, El-Shetry ES, Dawood LM, Alruwaili MM, Alrawaili HA, Risha EF, El-Taweel FM, Marei HE. (2018) Incensole acetate prevents beta-amyloid-induced neurotoxicity in human olfactory bulb neural stem cells. *Biomed Pharmacother*. 2018 Sep;105:813-823. doi: 10.1016/j.biopha.2018.06.014. Epub 2018 Jun 15.

50. Osman AK, Minamino N, Marei HE. Identification and mapping of brain natriuretic peptide in the normal ventricular myocardium of a desert-dwelling mammalian model, the camel (*Camelus dromedarius*): Immunohistochemical and ultrastructural study. *J Cell Physiol*. 2018 Aug 21. doi: 10.1002/jcp.27126. [Epub ahead of print]

51. Maiullari F, Costantini M, Milan M, Pace V, Chirivì M, Maiullari S, Rainer A, Baci D, Marei HE, Seliktar D, Gargioli C, Bearzi C, Rizzi R. (2018) A multi-cellular 3D bioprinting approach for vascularized heart tissue engineering based on HUVECs and iPSC-derived cardiomyocytes. *Sci Rep*. 2018 Sep 10;8(1):13532. doi: 10.1038/s41598-018-31848-x.

52. Hasan A, Morshed M, Memic A, Hassan S, Webster TJ, Marei HE. (2018) Nanoparticles in tissue engineering: applications, challenges and prospects. *Int J Nanomedicine*. 2018 Sep 24;13:5637-5655. doi: 10.2147/IJN.S153758. eCollection 2018. Review.

Book Chapter:

1. **Marei HE**, Asmaa Althani, Mohamed El Zowalaty, Carlo Cenciarelli (2015) Recent perspective about the amyloid cascade hypothesis and stem cell-based therapy in the treatment of Alzheimer's disease (Accepted for publication as a book chapter with Bentham Science Publishers (eBook series "Frontiers in Clinical Drug Research- Alzheimer Disorder; Vol. 4").

Books:

1. **Marei HE**, Human Olfactory Bulb Neural Stem Cells for Cell-based Therapy of Traumatic and Neurodegenerative CNS Disorders, LAMBERST, 2016.

Theses Supervision:

Master Thesis Supervision

1. Ontogeny of Primary Immune Organs in Some Chickens Breeds Ontogeny of thymus and spleen in Camel's (Faculty of Veterinary Medicine, Mansoura Univesity, Egypt). Finished.
2. Effects of seasonal variation on the histological structure of the accessory male glands of the camel (*Camelus dromedaries*). (Faculty of Veterinary Medicine, Mansoura Univesity, Egypt). Finished.
3. Pre- and post-hatching development of Harderian gland and Bursa of Fabricius in Chicken. (Faculty of Veterinary Medicine, Mansoura University, Egypt). Finished.
4. Histological Studies of the Digestive System of *Oreochromis niloticus* using Virtual Microscopy. (Faculty of Veterinary Medicine, Mansoura Univesity, Egypt). Finished.
5. Effects of seasonal variation on the histological; structures of gonads in *Oreochromis niloticus*. (Faculty of Veterinary Medicine, Mansoura Univesity, Egypt). Finished.
6. Genomic and Immunohistochemical Study for Assessment of Therapeutic Potential of Human Olfactory Bulb Neural Stem Cells in Spinal Cord Rat Model. (Faculty of Veterinary Medicine, Mansoura University, Egypt). Completed 2012.
7. Effects of oligomeric and fibrillar β -amyloid on proliferation and differentiation of human olfactory bulb neural stem cells. Collage of Health Sciences, Qatar University, Qatar). Expected defense date 2017.
8. Neuroprotective effects of small interfering RNA (siRN) against amyloid β -induced neurotoxic pathways in human olfactory bulb neural stem Cells. Collage of Health Sciences, Qatar University, Qatar). Expected defense date 2017.

9. Neuronal differentiation potential of mesenchymal stem cells derived from human adipose tissue. Completed, August 2016
10. Differentiation of human olfactory bulb neural stem cell into oligodendrocytes. Completed, August 2016. Completed, August 2016
11. Nanotubes impregnated human olfactory bulb neural stem cells promote neuronal differentiation in Trimethyltin-induced neurodegeneration rat model. Completed, August 2016.
12. RNA-sequencing of the human iPSC-derived-astrocyte (Collage of Health Sciences, Qatar University, 2016-2018).
13. Transcriptome analysis of human iPSC-derived neurons (Collage of Health Sciences, Qatar University, 2016-2018).

PhD Thesis Supervision

1. Differentiation of Cattle's mesenchymal stem cell: Electron Microscopy, Immunohistochemical and Molecular Studies. (Faculty of Veterinary Medicine, Mansoura University, Egypt). Expected defense date 2013.
2. Genomic and Immunohistochemical Study for Assessment of Therapeutic Potential of Human Olfactory Bulb Neural Stem Cells in Alzheimer's Rat Model. (Faculty of Veterinary Medicine, Mansoura University, Egypt). Finished
3. Genomic and Immunohistochemical Study for Assessment of Therapeutic Potential of Human Olfactory Bulb Neural Stem Cells in Parkinsonian's Rat Model (Faculty of Veterinary Medicine, Mansoura University, Egypt). Finished
4. Histological Evaluation for The Use of Nanotubes Impregnated Human Olfactory Bulb Neural Stem Cells for TMT- induced Neurodegeneration in Rats. (Faculty of Veterinary Medicine, Mansoura University, Egypt). Finished
5. Potentialities of Neural Stem Cell-based Therapy in Spinal Cord Injury of Rats : Immunohistochemical Study. (Faculty of Veterinary Medicine, Mansoura University, Egypt). Finished
6. Immunohistochemical Assessment of Neural Stem Cell-based Therapy in Alzheimer. (Faculty of Veterinary Medicine, Mansoura University, Egypt). Finished.

7. Immunohistochemical Assessment of Neural Stem Cell-based Therapy in Parkinsonian. (Faculty of Veterinary Medicine, Mansoura University, Egypt). Finished.

Funded Projects:

Educational Enhancement Projects:

1. Enhancement of Education and Development of Distance Learning Resources for Image-Based (Histology, Pathology, Radiology) courses, code number C-024-L0, funded by HEEPF (Higher Education Enhancement Project Fund, Egypt), \$ 38000. Web site: www.vetmansoura.com.
2. Enhancement of Veterinary Undergraduate Students Assessment System " Funding Agency: Program of Continuous Improvement and Qualification for Accreditation in HEI (PCIQA), Fund Approved 1000 000 LE (\$ 145 000), Duration: 24 months, 2006-2007
3. Continuous Improvement and Qualification of Faculty of Veterinary Medicine, Mansoura University for Accreditation" Program of Continuous Improvement and Qualification for Accreditation in HEI (PCIQA), Fund Approved 4000 000 LE (\$580000), 2010-2013

Stem Cell Research Project:

1. Adult Human Olfactory Bulb Neural Stem Cells for Cell-based Therapies in The Central Nervous System", Science and Technology Development Fund (STDF), 1000 000 LE (\$ 145 000), 2009-2014.

Lab Accreditation and ISO Projects:

1. Accreditation of Molecular Biology Unit Standards at the Central lab of Faculty of Veterinary Medicine, Mansoura University According to ISO 17025, \$145000, 2014-2016.
2. Development of Human Resources Units and its Accreditation according to ISO 9001 Standards and Development of Joint Doctor of Veterinary Medicine (DVM)-like Bachelor's Degree according to

American Veterinary Medical Association (AVMA) Standards, \$580000), 2014-2017.

NPRP (National Priority Research Program), Qatar Foundation:

NPRP9-144-3-021: A Novel Angiogenic Anti-microbial Patch for Diabetic Wounds and Ulcer Treatment, PI, \$718,412.00

UREP (Undergraduate Research Experience Program), Qatar Foundation

UREP19-100-1-011 Research Mentor in the proposal **UREP19-100-1-011 Title:** Synthesis, Characterization & In vitro Biological Activity of pd(II) & Ln(III) Thiosemicarbazone, \$10,000

Research Mentor in UREP20-086-3-025: Title: Outcome of cell phone radiofrequency on the initiation and progression of human head and neck cancers.

Research Mentor in UREP19-100-1-011: Title: Synthesis, Characterization & In vitro Biological Activity of pd(II) & Ln(III) Thiosemicarbazone.

Internal Grant, Qatar University:

QUUG-BRC-BRC- 15\16-2: Targeting Glioblastoma Cancer Cells Using Paclitaxel-Loaded Human iPSCs-derived Neural Stem Cell” has been approved for a total amount of QR 120,000, Project duration starting from 28\02\2016 and is valid until 31\12\2017.

International Workshop, Qatar Foundation

CWSP8-W-0916-15017: Molecular Epidemiology of Key Global Priorities: Antimicrobial Resistance and Emerging Zoonotic Virus. \$49,800.00

GCC-2017-004: Use of patient-specific induced pluripotent stem cells (iPSCs) to study stroke in Qatar and GCC countries. PI, Lead, \$480,000, Project duration starting from 1\12\2016 and is valid until 30\11\2019.

GCC-2017-005: A Novel GelMA Hydrogel based Microfluidic Blood-Brain Barrier Prototype for in vitro Studies of Cancer Metastasis. Co-PI, \$480,000, Project duration starting from 1\12\2016 and is valid until 30\11\2019.

2015-present Conferences, Speaker, Poster, seminars, and workshops:

1. Workshop: Flow Cytometry Experiment Design and Data Analysis, 26th November 2015, Biomedical Research Center, Qatar University.
2. **International Conference:** Human Olfactory Bulb Neural Stem Cell Based Therapy For CNS Traumatic and Neurodegenerative Diseases, World Stem Cell Summit, **Atlanta, Georgia, 2015, USA.** The poster has been selected for Honorable Mention during this conference.
3. Seminar: Personalized Anticoagulant Management. *10th December 2015*, Biomedical Research Center, Qatar University.
4. Seminar: The Host-Microbe Interface: from a single pathogen to a microbiome, 16th December 2015, Biomedical Research Center, Qatar University.
5. Seminar: Use of Aptamer Nanotechnology in Targeting Cancer Stem Cells, 24th December 2015, Biomedical Research Center, Qatar University.
6. Seminar: Stem Cell and Regenerative Medicine, *18th February 2016*, Biomedical Research Center, Qatar University.
7. Seminar: Investigation of Mechan-Biological Factors Contributing to Congenital heart defects, *23rd February 2016*, Biomedical Research Center, Qatar University.
8. Seminar: Rapid Molecular Techniques for Identification of Gram Positive Cocci Directly from Blood cultures, *1st March 2016*, Biomedical Research Center, Qatar University.
9. Seminar: Why does rapid diagnostic infectious disease testing matter? *17th March 2016*, Biomedical Research Center, Qatar University.
10. Seminar: Combined immunodeficiency associated with homozygous MALT1 mutations, *28th April 2016*, Biomedical Research Center, Qatar University.

11. Seminar: Functional Molecular Diagnostic (FMDx) for personalization of cancer treatment - research and clinical results, *5th May 2016*, Biomedical Research Center, Qatar University.
12. Seminar: Cerebrospinal fluid biomarkers in Parkinson disease, Biomedical Research Center, Qatar University.
13. Poster Presentation entitle” Human Olfactory Bulb Neural Stem Cells for Cellular-based Therapy of Neurodegenerative Diseases, Annual Research Day (ARC’2016) QNCC, March, 2016, Qatar National Convention Center, Doha, Qatar. Poster selected within the top 10 position from more than 1500 submitted posters.
14. Handling Genomic Data: Clinical Interpretation, Governance and Responsible Sharing” 17th–18th April, 2016, Qatar National Convention Center, Doha, Qatar.
15. Cancer Genomics Program: Qatar Molecular Profiling Workshop. April 27-28th @ NCCCR, Qatar.
16. Poster Presentation entitle” Human Olfactory Bulb Neural Stem Cells for Cellular-based Therapy of Neurodegenerative Diseases The Qatar University Annual Research Forum, May 3, 2016, Research Complex, Qatar University.
17. Advisory Committee of Biomedical Research Center Meeting for discussion of future strategic plan for enhancing biomedical research at BRC. May 3rd, 2016 @ BRC, Qatar University, Qatar.
18. COMSTECH-FCC Joint International Workshop on Genomics & Genome Editing, Forman Christian College, Lahore, Pakistan, May 24-27, 2016.
19. Workshop :Tissue Culture of Mammalian Cells”, presenter, Biomedical Research Center, Qatar University, August, 2016.
20. International Workshop: Human Animal interface and emerging pathogens”, Biomedical Research Center, Qatar University, October, 2016.
21. Speaker and presentation (**Drugs treatment and gene expression analysis to target Glioblastoma cancer stem cells: towards a personalized medicine for brain cancer (GBM)** “3rd Middle East Molecular Biology Congress and Exhibition ” 14 -17 November 2016, Research Complex, Qatar University.
22. Speaker and presentation (**Pre-clinical evidence for successful engraftment of human olfactory bulb neural stem cells for Alzheimer’s, Parkinson’s and spinal cord injury**) in “2nd

International Conference on Brain Disorders and Therapeutics during October 26-28, 2016 at Chicago, USA.”

23. Workshop, WuXi NextCODE Genomic training for local researchers, 8-9 November, 2016, Sidra, Doha, Qatar.
24. Workshop: “Digital Western Blot”, Biomedical Research Center, Qatar University, November, 5, 2016.
25. Workshop: “Octet System and its application in Biomedical Researches”, Biomedical Research Center, Qatar University, November, 17, 2016.
26. Poster (**PDGFR α depletion attenuates glioblastoma stem cells features by modulation of STAT3, RB1 and multiple oncogenic signals**) in **“12th World Stem Cell Summit during DECEMBER 6-9, 2016, WEST PALM BEACH, FLORIDA, USA.”**
27. **Functional Genomics Symposium Nature via Nurture**, a workshop on scientific topic in collaboration with Sidra Medical & Research center on 14th December in Sidra out Patient Clinic (OPC), Doha, Qatar.
28. Speaker and presentation (Human Olfactory Bulb Neural Stem Cells for Cell-Based Therapy of Alzheimer’s Disease in Rats) in **Seventh International Conference on Alzheimer’s Disease and Related Disorders in the Middle East (ICAD-ME)**, Abu Dhabi, United Arab Emirates, February 23-25, 2017.
29. Keynote speaker and presentation (**Stem Cells Research in Sport**) in **Sports and Genetics Symposium**, Doha, Qatar, April 17, 2017.
30. Seminar: Small vessel disease and the risk of ischemic stroke. Experience from Qatar Stroke Database, 20th of April 2017, Collage of Health Sciences, Qatar University, Doha, Qatar.
31. Member of Organizing Committee: **Second Annual Health Research Symposium at Qatar University**, 22nd of April, 2017, College of Medicine, Qatar University, Doha, Qatar.
32. **1st QBRI Autism Symposium**, April 30th – May 1st/2017
Venue: Qatar National Convention Center (QNCC), Qatar Foundation, Doha – Qatar.
33. **9th Annual Forum of Qatar National Research Fund**, June 14th, 2017. Qatar National Convention Center (QNCC), Qatar Foundation, Doha – Qatar.

34. NCURA Fundamentals of Sponsored Project Management, September 12-14, 2017, New Research Complex (NRC), Qatar University, Qatar.
35. Speaker and presentation (Nanotubes impregnated human olfactory bulb neural stem cells promote neuronal differentiation in Trimethyltin-induced neurodegeneration rat model, 9th Annual Conference on Stem Cell and Regenerative Medicine, Sep 25-26, 2017 Berlin, Germ Germany. **Theme: Frontiers in Stem Cells & Regeneration.**
36. Speaker and presentation (Prospect of human Olfactory Bulb NSC for Cell-based therapy), Tissue Engineering and Stem Cell Technologies Workshop (CPD accredited), October 25-26, 2017 New Research Complex, Qatar University, Doha.
37. Attending, Advanced Therapies in Healthcare, Sidra Medical and Research Center, Four Seasons Hotel, Doha, Qatar.
38. Moderator for COPHAI 2017 Pre-Congress Workshop – Doha, Qatar, November 6, 2017.
39. Attending, Fourth International Conference for Pathogens at Human Animal Interface, Retz Carlton Hotel, Doha, Qatar 7-9 November, 2017.

Awards and honors

1. Winners of the Readers' Choice Award for original research papers published in 2016 for their Original Article Therapeutic potential of human olfactory bulb neural stem cells for spinal cord injury in rats (Spinal Cord (2016) 54, 785-797; doi: 10.1038/sc.2016.14)
2. Winner of Best Poster Award, Annual Research Day, Qatar University, March 2016.
3. Best Poster Award, ARC'2016, National Qatar Exhibition Center (NQEC), May 2016.
4. World Stem Cell Summit 2015 (10-12 December 2015) in Atlanta – USA. Honorable Mention during this conference for poster about OBNSC.
5. First Place Award of Excellence in Scientific Research, Ministry of Higher Education, Egypt (2012).
6. Mansoura University Encouraging Award (May 2004)
7. Man of the year 2014 nominated by Faculty Counsel, Faculty of Veterinary Medicine, Mansoura University, Egypt.

8. Marquis Who's Who, 2013.

References

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