

Education

- 2018 -2022 **Ph.D.; Prof. Daniel Offen's Laboratory of Translational Neuroscience**
Department of Human Molecular Genetics and Biochemistry, Sackler Faculty of Medicine, Felsenstein Medical Research Center, Tel-Aviv University
Thesis: "Feasibility of Mesenchymal Stem Cell-Derived Extracellular Vesicles to Enhance Post-Stroke Recovery"
- 2019 **Fellowship in Dr. Carli Roulston Laboratory of Pre-Clinical Stroke Research**
Florey Institute of Neuroscience & Mental Health, University of Melbourne - Australia
- 2019 **The CCRM Global Network Exchange Program** Centre for Commercialization of Regenerative Medicine, Melbourne – Australia
As part of the program, I had the opportunity to engage with prominent researchers and industry network within the Australian ecosystem.
- 2016-2018 **M.Sc.; Prof. Daniel Offen's Laboratory of Translational Neuroscience**
Department of Human Molecular Genetics and Biochemistry, Sackler Faculty of Medicine, Felsenstein Medical Research Center, Tel-Aviv University
Thesis: "Feasibility of Human Muscle Progenitor Cells Overexpressing Neurotrophic Factors for Improving Sensory and Motoric Deficits in Mouse Models of Peripheral Nerve Damage"
- 2012-2016 **B.Sc.; Biomedical Engineering Technion – Israel Institute of Technology**
Dean's list, winter semester 2016.
Final project: "Implementation of 8 MeV Total Skin Electron Irradiation Based on the Stanford Technique"
In 2017, the treatment developed as part of the project was instituted into Rambam Hospital's clinical practice.

Work History

- 2021-2022 **Teaching Assistant** Department of Human Molecular Genetics and Biochemistry, Sackler Faculty of Medicine, Tel-Aviv University
- 2015-2016 **Lab Assistant** Prof. Benjamin Podbilewicz Laboratory, Department of Biology, Technion – Israel Institute of Technology
- 2010-2012 **Mandatory Service** Prime Minister Office

Awards

- 2022 The Prajs-Drimmer Institute for Development of Anti-Degenerative Drugs travel award.
- 2021 First place in the student competition of the 29th Tel Aviv University Alzheimer Disease Conference.
- 2018 First place in the 2nd HBP curriculum workshop competition: Entrepreneurship in neuroscience in Berlin.
- 2017 Third place in the Biomedical Engineering project competition.

Contact

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Skills

- Various laboratory techniques:
 - Tissue culture
 - RNA isolation
 - RT-qPCR
 - Protein extraction
 - Western blot
 - Immunohistochemistry
- Animal study techniques:
 - Genotyping
 - Behavior testing
 - Surgeries
 - Sacrifice
- Research grants
- Knowledge of SolidWorks and MATLAB
- Group and individual instruction
- Student mentoring

Languages

Hebrew

English

Publications

Peer-Reviewed Papers

Guy R, Herman S, Benyamini H, Ben-Zur T, Kobo H, Pasmanik-Chor M, Yaacobi D, Barel E, Yagil C, Yagil Y, Offen D. Mesenchymal stem cell-derived extracellular vesicles as proposed therapy in a rat model of cerebral small vessel disease. Accepted for publication in *IJMS* (20.9.22).

Yom-Tov N,[†] **Guy R**,[†] Offen D. Extracellular vesicles over adeno-associated viruses: advantages and limitations as drug delivery platforms in precision medicine. Accepted for publication in *Adv Drug Deliv Rev* (6.9.22).

[†]These authors contributed equally to this work.

Guy R,[†] Volkman R,[†] Wilczynski E, Yagil C, Yagil Y, Findler M, Auriel E, Nevo U, Offen D. Sabra rats as a novel model of cerebral small vessel disease with white matter hyperintensities and peripheral oxidative stress. *IJMS*. 2022, 23(11), 5915. doi:10.3390/ijms23115915

[†]These authors contributed equally to this work.

Guy R, Offen D. Promising opportunities for treating neurodegenerative diseases with mesenchymal stem cell-derived exosomes. *Biomolecules*. 2020, 10(9), 1-22. doi:10.3390/biom10091320

Guy R, Grynspan F, Ben-Zur T, Panski A, Lamdan R, Danon U, Yaffe D, Offen D. Human muscle progenitor cells overexpressing neurotrophic factors improve neuronal regeneration in a sciatic nerve injury mouse model. *Front Neurosci*. 2019, 13(151). doi:10.3389/fnins.2019.00151.

Oral Presentations at Meetings

Guy R. A novel model of cerebral small vessel disease with white matter hyperintensities and peripheral oxidative stress using the sabra rats. *The AD/PD™ International Conference on Alzheimer's and Parkinson's Diseases and related neurological disorders*. Barcelona, Spain. 2022.

Guy R. DOCA-treated Sabra hypertensive rats: A novel model for cerebral small vessel disease with white matter hyperintensities and peripheral oxidative stress. *The 3rd International Conference on Neurovascular and Neurodegenerative Diseases (NVND)*. 2021.

Guy R. Sabra rats as a novel model of cerebral small vessel disease with white matter hyperintensities. *The 2nd Israeli Stroke Conference*. 2021.

Guy R. DOCA-treated Sabra hypertensive rats: A novel model for cerebral small vessel disease with white matter hyperintensities. *The 29th Tel Aviv University Alzheimer Disease Conference*. 2021.

Scientific Posters

Guy R, Pasmanik-Chor M, Yagil C et al. Cerebral small vessel disease in Sabra rats: a novel model and proposed therapy with MSC-derived EVs. *The Israel society for extracellular vesicles research (ISREV)*. 2022.

Guy R, Pasmanik-Chor M, Yagil C et al. Mesenchymal stem cell-derived extracellular vesicles as a therapy for cerebral small vessel disease using a novel model in rats. *The Israeli society of gene & cell therapy (ISGCT)*. 2022.

Guy R, Volkman R, Wilczynski E et al. A novel model for cerebral small vessel disease with white matter hyperintensities using DOCA-treated Sabra hypertensive rats. *Neurology*. 2021.

Guy R, Volkman R[†], Wilczynski E et al. Sabra rats as a novel model of cerebral small vessel disease with white matter hyperintensities and peripheral oxidative stress. *Neuroscience*. 2021.

Guy R, Volkman R[†], Wilczynski E et al. Sabra rats as a novel model of cerebral small vessel disease with white matter hyperintensities and peripheral oxidative stress. *The 8th European Stroke Organisation Conference*. 2021.

Guy R, Ben-Zur T, Panski A, et al. Ectopic human muscle progenitor cells expression of neurotrophic factors improves recovery in a mouse model of sciatic nerve injury. *ILANIT/ Federation of all the Israel Societies for Experimental Biology (FISEB) Conference*. 2020.

Guy R, Ben-Zur T, Panski A, et al. Ectopic human muscle progenitor cells expression of neurotrophic factors improves recovery in a mouse model of sciatic nerve injury. *International Society for Cellular Therapy (ISCT) Annual Meeting*. Melbourne, Australia, 2019.

Guy R, Ben-Zur T, Panski A, et al. Human muscle progenitor cells overexpressing neurotrophic factors for improving intrinsic neuronal regeneration in sciatic nerve injury mouse model. *Israel Society for Neuroscience (ISFN) Annual Meeting*. 2017.