

April, 2022

CURRICULUM VITAE AND LIST OF PUBLICATIONS

Personal Details

Name: Tovit Rosenzweig

Date and Place of Birth: 11.12.73, Tel-Aviv

Regular National service: 9.91-8.92.

Address (work): Ariel University, Ariel, Israel. Tel: 972-3-9371433

Address (home): Kedumim, 44856, Israel. Tel: 972-9-7928162, 972-54-6560839

Education

Undergraduate and Graduate Studies

- Ph.D./ D.Sc. / M.D. 1999-2002 - Bar-Ilan University - Faculty of Life Sciences University
Name of advisor: SR Sampson
Title of thesis: Involvement of PKC isoforms in insulin resistance induced by TNFalpha in skeletal muscle
- M.A. / M.Sc. 1997-1998 - Bar-Ilan University - Faculty of Life Sciences
Name of advisor: SR Sampson
Title of thesis: Involvement of Potassium Channels in the Proliferation of Bladder Carcinoma Cell Lines of Different Malignancies
- B.A. / B.Sc. 1993-1995- Hebrew University, Faculty of Agriculture - Department of Nutrition Studies.

Post-Doctoral Studies

2002-2005- Post-Doctoral Fellowship in Molecular Biology. Bar Ilan University, Faculty of Life Sciences. Laboratory of Prof. Chaya Brodie.

Academic Ranks and Tenure in Institutes of Higher Education

- 2021-present, Ariel University, Department of Molecular Biology, Department of Nutrition Studies. Associate Professor, Head of the laboratory for Diabetes research.
- 2013-2021, Ariel University, Department of Molecular Biology, Department of Nutrition Studies. Senior Lecturer, Head of the laboratory for Diabetes research (tenured).

- 2005-2013, Ariel University, Department of Molecular Biology, Department of Nutrition Studies. Lecturer, Head of the laboratory for Diabetes research (tenured).

Professional Activities

(in descending chronological order)

Positions in academic administration (Departmental, Faculty and University)

- 2014-present- Ariel University, Head, Institutional Animal Care and Ethics Committee.
- 2014-present – Ariel University, Department of Molecular Biology, Head, program for Master Degree.

Professional functions outside universities/institutions (inter-university, national, international)

- 2015-present- Member of the Israel Plant Gene Bank management, Israel.

Significant professional consulting

- 2015-2019, Diabest Botanical Drugs, Ltd, R&D of dietary supplement to support regulation of blood glucose.

Editor or member of editorial board of scientific or professional journal

2022- present- Associate editor, Frontiers in Pharmacology

Membership in professional/scientific societies

2006 - present- Member of the Israel Diabetes Association.

2012-present- Member of the Israel Endocrine Society.

2021-present- Member of the IUPHAR Mediterranean Group of Natural Products Pharmacology.

Educational activities

Courses taught in Recent Years

2015-2021	Anatomy and Physiology A&B, for undergraduate students, Department of Nutritional Sciences, Ariel University
2022-	Anatomy and Physiology B, for under graduate students, Department of Molecular Biology, Ariel University
2019-	Physiology A, for undergraduate students, Department of PreMed studies, Ariel University
2020-	Physiology for Medical students, Faculty of Medicine, Ariel University (Jointly taught with Prof. Michaelevski)
2015-	Physiological Regulation of Energy Balance in the Human Body, for undergraduate students, Department of Nutritional Sciences, Ariel University.

2015- Intracellular Signal Transduction for graduate students, Department of Molecular Biology, Ariel University.

Supervision of Research Students

M.Sc students

- 2020-present Manier Jade, M.Sc student, Project title: Epigenetic effects of N-acetyl cysteine in High-fat diet-induced obese mice. Ariel University.
- 2016-2019 Ben-Shahar Michaela, M.Sc. student, Project title: Identifying Novel Mechanisms Underlying the Facilitation of Glucose Uptake by *Sarcopoterium Spinosum* extract into Target Cells: Focus on Upstream Events. Ariel University.
- 2016-2018 Michlin Michal, M.Sc. student, Ariel University.
- 2014- 2016 Elisyan Uriel, M.SC student, Project title: Anti-diabetic activity of the aerial parts of *Sarcopoterium spinosum*. Ariel University.
- 2012- 2014 Falach Alona, M.Sc. student. Jointly with Prof. SR Sampson, Bar Ilan University.
- 2012- Frenkel Lital, M.Sc. student. Project title: Effect of N-acetyl cysteine on the development of type 1 diabetes in NOD mice. Jointly with Prof. SR Sampson, Bar Ilan University.
- 2010- 2012 Rozenfeld Hava, M.Sc. student. Project title: The effect of N-acetyl cysteine on the development of diabetes in mice models. Jointly with Prof. SR Sampson, Bar Ilan University.
- 2010- 2013 Lazara Yulia, M.Sc. student. Project title: The role of adiponectin in the differentiation and function of 3T3-L1 adipocytes. Jointly with Prof. SR Sampson, Bar Ilan University.
- 2009 – 2012 Rozenberg Kostia, M.Sc. student. Project title: *Sarcopoterium Spinosum* extract for the treatment of diabetes: identifying molecular mechanism of action. Jointly with Prof. SR Sampson, Bar Ilan University.
- 2008 – 2011 Chetboun Moria, M.Sc. student. Project title: The role of adipokines in the regulation of redox potential and functionality of pancreatic beta cells. Jointly with prof. SR Sampson, Bar Ilan University.
- 2007-2009 Smirin Polina, M.Sc. Project title: *Sarcopoterium spinosum* extract as an antidiabetic therapy: investigating its efficacy *in-vitro* and *in-vivo*. Jointly with Prof. SR Sampson, Bar Ilan University.
- 2006-2009 Abitbol Guila, M.Sc. Project title: Effects of leptin and adiponectin on pancreatic beta cell function. Jointly with Prof. SR Sampson, Bar Ilan University.

PhD students

- 2019-present- Ben-Shahar Michaela, Ph.D student, Project title: Different susceptibility to metabolic alterations in the Sub-Dom mice models: mechanisms and treatment strategies. Jointly with Prof. Pinhasov, Ariel University.
- 2018-present- Wolman Ayala, Ph.D student, Project title: Isolation and identification of active compounds in *Sarcopoterium spinosum* extract for the treatment of the metabolic syndrome. Ariel University.

- 2018-2022- Daniel Tehila, Ph.D student, Project title: From liability to possibility: Grape pomace for the treatment of insulin resistance and NAFLD in mice. Jointly with Prof. Baranes, Ariel University.
- 2016- 2021 Frankel-Argaev Lital, Ph.D student, Project title: The effect of NAC supplementation on redox balance and the development of type 2 diabetes: *in-vitro* and *in-vivo* study. Jointly with Prof. Baranes, Ariel University.
- 2014- 2019 Rozenberg Kostantin, Ph.D student, Project title: Investigating the potential benefit of Sarcopoterium Spinosum extract for the treatment of the metabolic syndrome. Jointly with Prof. Baranes, Ariel University.

Awards, Citations, Honors, Fellowships

Honors, Citation Awards (including during studies)

- 2001 Wolf scholarship for outstanding Ph.D. students
- 2000 Israel Diabetes Association prize for outstanding presentation
- 1995 Dean's list, Faculty of Agriculture, Hebrew University
- 1994 Dean's list, Faculty of Agriculture, Hebrew University
- 1993 Rector's award for excellence, Faculty of Agriculture, Hebrew University

Fellowships

2003-2004, ICRF – Postdoc fellowship.

Scientific Publications

Citation Index

H-index (ISI / Google Scholar): 14

Total number of citations of all articles: ISI: 274 / Google Scholar: 668

Total number of citations without self-citations: ISI: 233 / Google Scholar: 647

Authored books

Books Chapter

Henkin Z., **Rosenzweig T.** and Yaniv Bachrach Z. Sarcopoterium spinosum, Medicinal and Aromatic Plants of the Middle-East, chapter 7. 2014.

Conference Proceedings

1. Abookasis, D; Shemesh, D; Bokobza, N; Bloygrund, H; Franjy-Tal, Y; Rozenberg, K; Rosenzweig, T. Evaluation the effect of acute hyperglycemia on cerebral tissue properties with diffuse optical imaging systems. Conference on Neurophotonics part of SPIE Photonics Europe Conference. 2020. Neurophotonics 11360.

Articles

1. Cohen ED, Ben-Shachar M, **Rosenzweig T.**, Yassin M, Bowirrat A and Abookasis D. Combining laser speckle imaging and spatially modulated visible illumination to study the effect of anesthetic drugs on the optical and physiological parameters of brain. Opt Commun. 2024. In press.
2. Ben-Shachar M, Daniel T, Wollman A, Govindaraj S, Aviel-Ronen S, Pinhasov A and **Rosenzweig T.** Inherited stress resiliency prevents the development of metabolic alterations in diet-induced obese mice. Obesity 2023.
3. Gubnitsky G, Rozenberg K, **Rosenzweig T.**, Abookasis D. Non-invasive screening of glycemic state by statistical analysis of speckle images. Opt Commun 2023. <https://doi.org/10.1016/j.optcom.2022.128916>
4. Gahramanov V, Oz M, Aouizerat T, **Rosenzweig T.**, Gorelick J, Drori E, Salmon-Divon M, Sherman MY, Lubin BCR. Integration of the Connectivity Map and Pathway Analysis to Predict Plant Extract's Medicinal Properties-The Study Case of Sarcopoterium spinosum L. Plants (Basel). 2022. doi: 10.3390/plants11172195.
5. Argaev-Frenkel L, and **Rosenzweig T.** Complexity of NAC Action as an Antidiabetic Agent: Opposing Effects of Oxidative and Reductive Stress on Insulin Secretion and Insulin Signaling. Int J Mol Sci 2022. doi: 10.3390/ijms23062965 (Citations: 0, IF:5.924, JR: 12/69, Q1).
6. Daniel T, Ben-Shachar M, Drori E, Hamad S, Permyakova A, Ben-Cnaan E, Tam J, Kerem Z and **Rosenzweig T.** Grape Pomace Reduces the Severity of Non-Alcoholic Hepatic Steatosis and the Development of Steatohepatitis by Improving Insulin Sensitivity and Reducing Ectopic Fat Deposition in Mice. J Nutr Biochem 2021.

- doi: 10.1016/j.jnutbio.2021.108867. (Citations: 0, IF:6.048, JR: 8/122, Q1).
7. Aburus O, Shemesh D, Ben-Shachar M, **Rosenzweig T**, Abookasis D. Hybrid optical monitoring setup for biological tissue diagnosis and assessment. *Opt Commun* 2021. doi: 10.1016/j.optcom.2021.126841 (Citations: 0, IF:2.31, JR: 199/693, Q2).
 8. Shtein I, Wolberg S, Munitz S, Zait Y, **Rosenzweig T**, Grünzweig JM, Ohana-Levi N, Netzer Y. Multi-seasonal water-stress memory versus temperature-driven dynamic structural changes in grapevine. *Tree Physiol.* 2021. doi: 10.1093/treephys/tpaa181. (Citations: 2, IF: 4.196, JR: 30/445, Q1).
 9. Shemesh D., Rozenberg K., **Rosenzweig T.**, and Abookasis D. Single probe diffuse reflectance spectroscopy to assess the effect of sarcopoterium spinosum treatment on the cerebral tissue properties of ApoE knockout mouse. *J Biophotonics* 2021. doi: 10.1002/jbio.202000307. (Citations: 0, IF: 3.207, JR: 33/297, Q1).
 10. Michlin M, Argav-Frenkel L, Weinstein-Fudim L, Ornoy A and **Rosenzweig T**. Maternal N-Acetyl Cysteine Intake Improved Glucose Tolerance in Obese Mice Offspring. *Int J Mol Sci* 2020. doi: 10.3390/ijms21061981. (Citations: 1, IF:5.924, JR: 12/69, Q1).
 11. Rozenberg K, Wollman A, Ben-Shachar M, Argav-Frenkel L, **Rosenzweig T**. Anti-inflammatory effects of Sarcopoterium spinosum extract. *J Ethnopharmacol.* 1;249:112391 2020. doi: 10.1016/j.jep.2019.112391. (Citations: 6, IF: 4.36, JR: 37/145, Q2).
 12. Wollman A, Daniel T, **Rosenzweig T**, Sarcopoterium spinosum Inhibited the Development of Non-Alcoholic Steatosis and Steatohepatitis in Mice. *Nutrients.* 13;11(12). pii: E3044. doi: 10.3390/nu11123044. 2019. (Citations: 6, IF: 5.429, JR: 40/310, Q1).
 13. Ben-Shachar M, Rozenberg K, Skalka N, Wollman A, Michlin M, **Rosenzweig T**. Activation of Insulin Signaling in Adipocytes and Myotubes by Sarcopoterium Spinosum Extract. *Nutrients* 21;11(6) 2019 pii: E1396. doi: 10.3390/nu11061396. (Citations: 5, IF: 5.429, JR: 40/310, Q1).
 14. Bloygrund H, Franjy-Tal Y, **Rosenzweig T**, Abookasis D. Multi-parameter wide-field integrated optical imaging system based spatially modulated illumination and laser speckles in model of tissue injuries. *J*

- Biophotonics. 2019 doi: 10.1002/jbio.201900141. (Citations: 2, IF: 3.207, JR: 33/297, Q1).
15. Shemesh D, Bokovza N, Rozenberg K, **Rosenzweig T**, Abookasis D. Decreased cerebral blood flow and hemodynamic parameters during acute hyperglycemia in mice model observed by dual-wavelength speckle imaging. *J Biophotonics*. 2019. doi: 10.1002/jbio.201900002. (Citations: 5, IF: 3.207, JR: 33/297, Q1).
 16. Argaev Frenkel L, Rozenfeld H, Rozenberg K, Sampson SR, **Rosenzweig T**. N-acetyl-L-cysteine supplement at early life or adulthood reduces progression of diabetes in NOD mice. *Current Development in Nutrition* 28;3(4):nzy097. 2018. doi: 10.1093/cdn/nzy097. New journal. Citations number: 5.
 17. Rozenberg K, **Rosenzweig T**. Sarcopoterium spinosum extract improved insulin sensitivity in mice models of glucose intolerance and diabetes. *Plos One* 16;13(5):e0196736. 2018. (Citations: 5, IF: 3.24, JR: 9/110, Q1).
 18. Eliyasiyan U, Nudel A, Skalka1 N, Rozenberg K, Drori E, Oppenheimer R, Kerem Z, **Rosenzweig T**. Anti-Diabetic Activity of Aerial Parts of *Sarcopoterium spinosum*. *BMC Complement Altern Med*. 17(1):356. 2017. doi: 10.1186/s12906-017-1860-7. (Citations: 13, IF: 3.659, Q1).
 19. **Rosenzweig T**, Skalka N, Rozenberg K, Elyasiyan U, Green B, Stanevsky M, and Drori E. Red wine and wine pomace reduced the development of insulin resistance and liver steatosis in HFD-fed mice. *J Functional Foods*. 34:379-389, 2017. doi: 10.1016/j.jff.2017.04.043 (Citations: 17, IF: 4.451, JR: 34/310, Q1).
 20. Falach A, Rozenfeld H, Chetboun M, Rozenberg K, Elyasiyan U, Sampson SR, **Rosenzweig T**. N-Acetyl-L-Cysteine Inhibits the Development of Glucose Intolerance and Hepatic Steatosis in Diabetes-Prone Mice. *Am J Transl Res*. 15;8(9):3744-3756, 2016. (Citations: 25, IF: 4.06, JR: 41/113, Q1).
 21. Bucris E, Beck A, Boura-Halfon S, Isaac R, Vinik Y, **Rosenzweig T**, Sampson S, Zick Y. Prolonged insulin treatment sensitizes apoptosis pathways in pancreatic beta cells. *J Endocrinology*. 230(3):291-307, 2016. doi: 10.1530/JOE-15-0505. (Citations: 18, IF: 4.286, JR: 29/219, Q1).
 22. Lazra Y., Falach A., Frenkel L., Rozenberg K., Sampson SR., **Rosenzweig T**. Autocrine/paracrine function of globular adiponectin: inhibition of lipid metabolism and inflammatory response in 3T3-L1 adipocytes. *J Cell*

- Biochem. 116(5): 754-66, 2015 doi: 10.1002/jcb.25031. (Citations: 31, IF: 4.429, JR: 94/415, Q2).
23. Raz O., Steinvil A., **Rosenzweig T.**, Berliner S., Shapira I., Boaz M. An eight-week high complex carbohydrate, energy restricted dietary intervention is associated with weight loss and a reduction of inflammation markers. *Bioactive Carbohydrates and Dietary Fibre* 4 (1): 93-99, 2014. <https://doi.org/10.1016/j.bcdf.2014.07.001> (Citations: 2, IF: 3.463, JR: 76/310, Q2).
24. Rozenberg K., Smirin P., Sampson SR., **Rosenzweig T.** Insulin-sensitizing and insulin-mimetic activities of *Sarcopoterium spinosum* extract. *J Ethnopharmacol.* 155(1):362-72, 2014. doi: 10.1016/j.jep.2014.05.030. (Citations: 13, IF: 4.36, JR: 37/145, Q2).
25. Raz O., Steinvil A., Shapira I., **Rosenzweig T.**, Justo D., and Berliner S. The effect of two iso caloric meals containing equal amounts of fats with a different fat composition on the inflammatory and metabolic markers in apparently healthy volunteers. *J Inflammation.* 10(1):3. 2013. doi: 10.1186/1476-9255-10-3. (Citations: 24, IF: 4.981, JR: 44/113, Q1).
26. Chetboun M., Abitbol. G., Rozenberg K., Doitch A., Sampson SR., **Rosenzweig T.** Maintenance of redox state and pancreatic β -cell function: role of leptin and adiponectin. *J Cell Biochem.* 113 (6): 1966-1976, 2012. doi: 10.1002/jcb.24065. (Citations: 49, IF: 4.429, JR: 94/415, Q2).
27. Gorelick J., Kitron A., **Rosenzweig T.**, Madar Z. Anti-diabetic Activity of *Chiliadenus iphionoides*. *J Ethnopharmacol*, 137 (3): 1245-1249, 2011. doi: 10.1016/j.jep.2011.07.051. (Citations: 32, IF: 4.36, JR: 37/145, Q2).
28. Smirin P., Taler D., Abitbol G., Brutman Barazani T., Kerem Z., Sampson SR., **Rosenzweig T.** *Sarcopoterium spinosum* extract as an antidiabetic agent: *in vitro* and *in-vivo* study. *J Ethnopharmacol* 129 (1): 10-17, 2010. doi: 10.1016/j.jep.2010.02.021. (Citations: 56, IF: 4.36, JR: 37/145, Q2).
29. Shimrit Frankel, Miriam Horovitz-Fried, Ayelet Parnas, Sarit Kahana, Guila Abitbol, Moria Chetboun, **Tovit Rosenzweig**, Chaya Brodie and Sanford R. Sampson. Insulin Increases H₂O₂-Induced Apoptosis in RINm Pancreatic Beta Cells. *Apoptosis* 15(10): 1165-1176, 2010. doi: 10.1007/s10495-010-0517-5. (Citations: 38, IF: 4.677, JR: 10/166, Q1).
30. Paran Y., Yablecovitch D., Choshen G., Zeitlin I., Rogowski O., R., Katzir M., Saranga H., **Rosenzweig T.**, Saar N., Justo D., Steinvil A., Halpern P., Berliner S. C-reactive protein velocity to distinguish bacterial

- from non bacterial infections. Crit Care. 13(2):R50, 2009. doi: 10.1186/cc7775. (Citations: 41, IF: 9.097, JR: 7/82, Q1).
31. **Rosenzweig T.**, Abitbol G., Taler D. Evaluating the Anti-Diabetic Effects of *Sarcopoterium Spinosum* Extract In-Vitro. Isr J Plant Sci 55: 103-109, 2007. doi: 10.1560/IJPS.55.1.103 (Citations: 11, IF: 0.721, JR: 148/347, Q3).
32. **Rosenzweig, T.**, Ziv-Av, A., Xiang C., Lu W., Cazacu S., Taller, D., Miller CG., Reich, R., Shoshan, Y., Anikster Y., Kazimirsky G., Sarid, R., Brodie, C. Related to testes-specific, vespid, and pathogenesis protein-1 (RTVP-1) is overexpressed in gliomas and regulates the growth, survival and invasion of glioma cells. Cancer Research 66: 4139-4148, 2006. doi: 10.1158/0008-5472.CAN-05-2851. (Citations: 61, IF: 12.701, JR: 21/340, Q1).
33. Heled, Y., Dror, Y., Moran, D.S., **Rosenzweig, T.**, Sampson, S.R., Epstein, Y., Meyerovitch, J. Physical exercise increases the expression of TNF α and GLUT1 in muscle tissues of diabetes prone Psammomys obesus. Life Sci. 77: 2977-2985, 2005. doi: 10.1016/j.lfs.2005.05.033. (Citations: 22, IF: 5.037, JR: 8/67, Q1).
34. **Rosenzweig, T.**, Mizrahi, S., Bak A., Sampson, S.R. Src Tyrosine kinase regulates insulin-induced activation of protein kinase C (PKC) δ in skeletal muscle. Cellular Signalling 16: 1299-1308, 2004. doi: 10.1016/j.cellsig.2004.03.015. (Citations: 64, IF: 4.315, JR: 103/279, Q1).
35. **Rosenzweig, T.**, Braiman., L., Bak A., Alt A., Kuroki T., Sampson, S.R. Differential effects of Tumor Necrosis Factor- α (TNF- α) on Protein Kinase C (PKC) isoforms alpha and delta mediate inhibition of insulin receptor signaling. Diabetes 51: 1921-1930, 2002. doi: 10.2337/diabetes.51.6.1921. (Citations: 86, IF: 9.461, JR: 9/219, Q1).

Additional Scientific Publications

Reviews (Since last promotion):

1. Argaev-Frenkel L, **Rosenzweig T.** Redox balance in type 2 diabetes: therapeutic potential and the challenge of antioxidant-based therapy. Antioxidants 2023.

Reviews:

2. **Rosenzweig T** (corresponding author), Sampson SR. Activation of Insulin Signaling by Botanical Products. *Int J Mol Sci* 2021.
doi: 10.3390/ijms22084193 (Review) (Citations: 3, IF:5.924, JR: 12/69, Q1).

Papers and Abstracts - Proceedings of Conference

1. Raz, O. Rogowski, O. **Rosenzweig, T.** Shapira, I. Berliner, S. Boaz, M. Anti Inflammatory Effect of High Complex Carbohydrate Diet in Obese Volunteers: Gender Related Effects. *Atherosclerosis* 241 E193-E193, 2015.
2. Raz, O. Rogovsky, O. **Rosenzweig, T.** Shapira, I. Berliner, S. Effects of High Complex Carbohydrate Diet with Small and Frequent Meals on Weight Reduction and the Markers of Metabolic Syndrome and Inflammation, Gender-Related Differences. *Clinical Nutrition* 33 S214, 2014.
3. Rozenfeld H., Chetboun M., Sampson SR., **Rosenzweig T.** Importance of maintaining redox potential balance in the development of type 2 diabetes. *BMC Proceedings* 2012, 6 (Suppl 3):P39. From Metabolism, diet and disease. Washington, DC, USA. 29-31 May 2012.
4. Rozenberg, K. Smirin, P. Sampson, S. **Rosenzweig, T.** Anti-diabetic properties of sarcopoterium spinosum extract. *J Diabetes* 3, 2011.
5. Raz, O. Justo, D. **Rosenzweig, T.** Shapira, I. Gavriel, S. Berliner, S. High saturated fatty acids meal induced an increase in inflammatory response compared to high mono unsaturated fatty acids meal. *J Diabetes* 1, 2009.
6. Raz, O. Rogowski, O. **Rosenzweig, T.** Shapira, I. Maharshak, N. Karni, Y. Berliner, S. Anti inflammatory effect of high complex carbohydrate diet and physical activity in severely obese volunteers. *J Diabetes* 1, 2009.
7. Abitbol, G. Frankel, S. Sampson, S. **Rosenzweig, T.** The redox paradox: adipokines increase ROS production, but protect against oxidative stress in pancreatic beta-cells. *J Diabetes* 1, 2009.
8. Abitbol, G. Sampson, S. **Rosenzweig, T.** The effects of leptin and adiponectin on pancreatic beta-cell function are modulated by high glucose concentrations. *J Diabetes* 1, 2009.

9. Sampson, S. R. **Rosenzweig, T.** Bak, A. Brand, C. Protein kinase Cs alpha and delta regulate activation of PKB by insulin in skeletal muscle. *Diabetologia* 46, A214 2003.
10. **Rosenzweig, T.** Bak, A. Sampson, S. R. Protein Kinase C delta and Src regulate early insulin receptor signaling. *Molecular Biology of the Cell* 12 328a-329a, 2001.
11. **Rosenzweig, T.** Braiman, L. Bak, A. Alt, A. Kuroki, T. Sampson, S. R. Activation of Protein Kinase C delta by a distinct pathway mediates Tumor Necrosis Factor-alpha inhibition of Insulin Receptor signaling. *Diabetologia* 44, A177, 2001.
12. **Rosenzweig, T.** Braiman, L. Bak, A. Alt, A. Kuroki, T. Sampson, S. R. Differential effects of protein kinase C isoforms alpha and delta mediate TNF-alpha inhibition of insulin receptor signaling. *Diabetes* 50, A297 2001.
13. **Rosenzweig, T.** Bak, A. Braiman, L. W. Alt, A. Ohba, M. Kuroki, T. Tennenbaum, T. Sampson, S. R. TNF-alpha inhibits insulin receptor (IR) signaling in skeletal muscle through an action on PKCs alpha and beta. *Diabetologia* A67, 2000.

Patents

- 2010- Inventors: Dvir Taler, Tovit Rosenzweig,. Pharmaceutical Compositions Comprising Extracts of *Sarcopoterium Spinosum*, Components Thereof, and Uses Thereof. PCT/IB2010/052551, Status: Abandoned.
- 2018- Inventors: Konstantin Rozenberg, Tovit Rosenzweig S. *Spinosum* Extract for Treating Fatty Liver Disease. U.S. International Application Number PCT/IL2018/050950.
- 2020- Inventors: Tovit Rosenzweig. Konstantin Rozenberg. *Sarcopoterium spinosum* extract for Treating Inflammation. U.S. International Application Number PCT/IL2020/050215.

Research Grants

Competitive funds:

2007 Danone institute. Grantee: O. Raz (PI) and **T. Rosenzweig**,
Project: Effect of fat composition of meal on the acute post-prandial pro-inflammatory response.
\$12,500.

2008-2010 Israel Ministry of Science Culture & Sport. Grantee: **T. Rosenzweig (PI)**.
Project: Research and Development of *Sarcopoterium Spinosum* Extract for Treating Diabetes Mellitus.
Annual amount: \$40,000. Total amount: \$120,000.

2014 Ministry of science, technology and space, R&D centers. Grantee: **T. Rosenzweig** and E Drori (Co-PI).
Project: Effect of alcoholic and nonalcoholic red wine and wine pomace on insulin resistance and liver steatosis in mice.
Total amount: \$50,000 (\$25,000 for Rosenzweig T).

2014-2017 Ministry of Agriculture & Rural Development. Grantee: Schaffer A (PI), Burger Y, Tadmor Y, Lewinsohn E, Barazani O and **Rosenzweig T (Co-PI)**.
Project: Novel varieties of *Momordica charantia* (bitter melon) and *Sarcopoterium spinosum* (Sirah kotzanit) for use in control of type 2 diabetes mellitus.
Annual amount: \$92,000. Total amount: \$277,000 (\$132,000 for Rosenzweig T).

2015-2016 Ministry of Health, D-Cure. Grantee: **Rosenzweig T (PI)**.
Project: Investigating mechanisms mediating the effect of N-acetyl-L-cysteine supplementations at adulthood or in-utero and lactation period on the prevention of type 2 diabetes in KK-Ay mice.
Annual amount: \$18,000. Total amount: \$36,000.

2017-2019 Ministry of Agriculture & Rural Development. Grantee: **Rosenzweig T (PI)**, Kerem Z. (Hebrew University). Project: From liability to possibility: developing potential food/dietary supplement for the prevention and treatment of fatty liver and glucose intolerance.
Annual amount: \$73,000. Total amount: \$220,000 (\$110,000 for Rosenzweig T).

2019-2021 Ministry of Agriculture & Rural Development. Grantee: Gorelick J (PI), **Rosenzweig T**.
Project: Development of Excess Israeli Citrons as Dietary Supplements using Animal Models.
Annual amount: \$35,000. Total amount: \$106,000 (\$53,000 for Rosenzweig T).

Lectures and Presentations at Meetings and Invited Seminars not Followed by Published Proceedings (last five years)

Invited plenary lectures at conferences/meetings

1. Rosenzweig T. 2023. Complexity of NAC action in the treatment of diabetes: opposing effects of oxidative and reductive stress on insulin secretion and insulin signaling. Ilanit, Eilat, Israel.
2. Rosenzweig T. 2022. Stress vulnerability and metabolic diseases. Advances in obesity and metabolic syndrome. Ariel University, Israel.
3. Rosenzweig T. 2019. *Sarcopoterium spinosum* for the treatment of the metabolic syndrome. Israel Nutrition week, Israel.
4. Rosenzweig T. 2018. *Sarcopoterium spinosum* for the treatment of the metabolic syndrome. New application of herbs in medicine, Volcani Center, Israel.

Presentation of papers at conferences/meetings

• Lectures and Presentations at Meetings and Invited Seminars not Followed by Published Proceedings

1. Complexity of NAC action in the treatment of diabetes: opposing effects of oxidative and reductive stress on insulin secretion and insulin signaling. Ilanit 2023 (invited oral presentation)
2. Wollman A, Afani R, Carmeli S and Rosenzweig T. 2022.
Sarcopoterium spinosum activates insulin signaling and prevents insulin resistance, metabolic fatty liver disease, and cognitive impairments in diet-induced obese mice. (Oral presentation)
Joint meeting on Natural Products Pharmacology - SIF - SIPHAR – IMGNPP, Naples, Italy.
3. Daniel T, Drori E, Nudel A, Kerem Z and Rosenzweig T.
From liability to possibility: Wine pomace for the prevention and treatment of insulin resistance. (Oral presentation)
Joint meeting on Natural Products Pharmacology - SIF - SIPHAR – IMGNPP, Naples, Italy.
4. Argaev-Frenkel L. Michlin M., Rosenzweig T. 2020.
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