

Name Oren Tirosh (Ph.D.)

Date of birth: 22 Feb. 1968

Department: Institute of Biochemistry, Food Science and Nutrition, The Robert H Smith Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem, P.O. Box 12, Rehovot 76100, Israel. 972-8-9363208, Tel: 972-8-9489623

Homepage:

Academic Degrees: Senior Lecturer

Previous Post-Doctoral Fellowships and Appointments:

1997-2000: Post-doctorate fellow in the laboratory of Prof. Lester Packer, Department of Molecular and Cell Biology, University of California at Berkeley. #9,14,16,18,19,20,21,22

Research area: Antioxidant research, redox modulation of cell death processes, mitochondrial function, inflammatory cytokines activity and design of redox active molecules.

2000-2001: Post-doctorate fellow in the laboratory of Prof. Y. Barenholz, Faculty of Medicine of the Hebrew University of Jerusalem.

Current Appointment at the Hebrew University:

2006-present Senior Lecturer

Academic Positions:

10/2011 Head of the School of Nutrition.

Honors and Prizes:

1991: The Hebrew University Rector scholarship.

1992: The Abraham Ziv award for excellent master's degree research work.

1998: The Hebrew University Alice Sussman fellowship.

1998: The Oxygen Club of California. Young researcher's award.

2000: Lady Davis fellowship (The Hebrew University of Jerusalem).

2002: Junior Investigator award (Wound healing: oxygen and emerging therapies).

Grants within the last 5 years:

- 1) 2007-2010 Israel Science Foundation (ISF), Involvement of Nitric Oxide in Fatty Liver Dysfunction, US \$ 60,000/120,000 Oren Tirosh PI, Zecharia Madar PI. #44,45,48
- 2) 2007-2008 Israel Diabetes Association, Signaling mechanisms linking the nitric oxide system with hepatic insulin resistance US \$ 7,500 **Oren Tirosh PI**, Zecharia Madar CI.
- 3) 2007-2008 Galmed Inc. (Yissum), Biological properties of FABACs, US \$ 18,000 **Oren Tirosh PI**.
- 4) 2008 Remedia internal grant (HU), Pro-inflammatory effect of fat on Kupffer cells, and liver damage as mediators of insulin resistance. US \$ 16,000 **Oren Tirosh** and Zecharia Madar PIs.
- 5) 2009 Hadshanut internal grant (HU), Breeding of passion fruit as a functional food containing neuroprotective nutraceuticals. US \$ 12,000 **Oren Tirosh** and Alon Samach PIs.
- 6) (2010-2012) Protection against fatty liver inflammation by double targeted NO donor compounds. Collaborative Research Proposals with Hohenheim. US \$ 36000/72000 **Oren Tirosh** and Uwe Beifuss.
- 7) (2010-2012) Nutrigenomics and functional food research center. Genomic and functional study of the fatty liver syndrome following modulations with L-arginine and omega-3 unsaturated fatty acids, US \$ 31000/62000 **Oren Tirosh** and Shlomo Sasson.

Grant proposals recently submitted:

Publications within the last 5 years:

- 1 Dasgupta J., Subbaram S., Connor K.M.^S, **Tirosh O.^C**, Melendez J.A. ^{PI} (2006) Manganese Superoxide Dismutase protects from TNF- α induced apoptosis by increasing the steady state production of H₂O₂, Antioxid. Redox. Signal. 8(7-8): 1295-1305, 7.58; 5/105; 17
- 2 Aharoni-Simon M.^S, Reifen R.^C, **Tirosh O.^{PI}**, (2006) ROS-Production-Mediated Activation of AP-1 but Not NF κ B Inhibits Glutamate-Induced HT4 Neuronal Cell Death, Antioxid. Redox. Signal. 8(7-8): 1339-1349, 7.58;5/105;1

- 3 Abovich-gilad L.^S, **Tirosh O.**^C, Schwartz B.^{PI}, (2006) Phytoestrogens regulate transcription and translation of vitamin D receptor in colon cancer cells, J. Endocrinol., 191(2): 387-398. 2.8;48/105; 11
- 4 Pardo M.^S, Melendez J.A.^C, **Tirosh O.**^{PI} (2006) MnSOD Inactivation during Fas (CD95)-mediated apoptosis in Jurkat T cells, Free Rad. Biol. Med., 41(12): 1795-1806. 6.081;12/105; 8
- 5 Shilo S.^S, Pardo M.^S, Aharoni-Simon M. ^S, Gliebter S.^T, **Tirosh O.**^{PI} (2008) Selenium supplementation increases liver MnSOD expression: molecular mechanism for hepato-protection, J Inorg Biochem., 102(1):110-8. 3.25;9/44;5
- 6 **Tirosh O.**^{PI}, Levy E. ^S, Reifen R. ^{PI} (2007) High-selenium diet protects against TNBS-induced acute inflammation, mitochondrial dysfunction and secondary necrosis in rat colon, Nutrition, 23(11-12):878-86. 2.6;23/66; 9
- 7 Aronis A.^S, Madar Z.^C, **Tirosh O.**^{PI} (2008) Lipotoxic effects of triacylglycerols in J774.2 macrophages, Nutrition. 24(2):167-76. 2.6;23/66; 6
- 8 Budick-harmelin N.^S, Dudas J.^S, Demuth J.^S, Madar Z.^C, Ramadori G.^C **Tirosh O.**^{PI} (2008) triglycerides potentiate the inflammatory response in rat kupffer cells, Antioxid. Redox. Signal., 10(12):2009-22. 7.58;5/105;3
- 9 **Tirosh O.**^{PI}, Ilan E. ^S, Anavi S.^S, Ramadori G.^C, Madar Z. ^{PI} (2009) Nutritional lipids-induced oxidative stress leads to mitochondrial dysfunction followed by necrotic death in FaO hepatocytes, Nutrition, 25(2):200-8. 2.6;23/66,1
- 10 *Pardo M.^S, Budick-harmelin N.^S, Tirosh B.^C, **Tirosh O.**^{PI} (2008) Antioxidant defense in hepatic ischemia-reperfusion injury is regulated by damage-associated molecular pattern signal molecules, Free Rad. Biol. Med., 45(8):1073-83. 6.081;12/105;3
- 11 **Tirosh O.**^{PI}, Ilan E. ^S, Budick-harmelin N. ^S, Ramadori G. ^C, Madar Z. ^{PI} (2009) Down regulation of eNOS in a nutritional model of fatty liver, e-SPEN. (new journal) 4(2);e101-e104.

- 12 Pardo M.^S, **Tirosh O.**^{PI}, (2009) Protective signaling effect of Manganese superoxide dismutase in hypoxia-reoxygenation of hepatocytes, *Free Radical Research*, 43(12):1225-39. 2.25;176/283,3
- 13 Aronis A.^S, Aharoni-Simon M.^S, Madar Z.^C, **Tirosh O.** ^{PI} (2009) Triacylglycerol-induced impairment in mitochondrial biogenesis and function in J774.2 and mouse peritoneal macrophage foam cells. *Arch. Biochem. Biophys.* 492(1-2):74-81. 2.63, 30/70, 1
- 14 ***Tirosh O.** ^{PI}, Artan A.^S, Aharoni-Simon M. ^S, Ramadori, G. ^C, Madar Z. ^{PI} (2010) Impaired liver glucose production in a murine model of steatosis and endotoxemia: protection by inducible nitric oxide synthase. *Antioxid. Redox. Signal.*, 13(1):13-26. 7.58; 5/105; (appears on journal cover)
- 15 Anavi S. ^S, Ilan E. ^S, **Tirosh O.** ^C, Madar Z.^{PI} (2010) Infusion of a lipid emulsion modulates AMPK and related proteins in rat liver, muscle and adipose tissues. *Obesity*, 18(6):1108-15, 2.76,16/59, 1
- 16 *Aharoni-Simon M.^S, Hann-Obercyge M. ^T, Pen S. ^T, Madar Z. ^C, **Tirosh O.** ^{PI} (in press 2011) Fatty Liver is Associated with Impaired Activity of PPAR gamma-Coactivator 1alpha; (PGC1alpha) and Mitochondrial Biogenesis in Mice, *Laboratory Investigation*, 4.6, 16/93

Patents:

Oren Tirosh and Ram Reifen.

Treatment of inflammatory disease with high dose selenium.
Patent pending Sep/03.

* **Oren Tirosh**, Zecharia Madar, Anna Aronis, Erez Ilan.

Method for treating lipotoxicity or lipotoxicity associated illnesses.

Patent Pending Dec/06.

* **Oren Tirosh**, Ron Kohen

Composition of matter for reducing oxidative stress

US PTO on 16 April 2007, file number: 60/907,756.

* **Oren Tirosh**, Alon Samach

Natural extract with neuroprotective effects, applied for patent (2010)

* Oren Tirosh, Shlomo Sasson, Zcharia Madar, Michal Obertziger

Method for the treatment of steatohepatitis (provisional parent 2011)

Invited Lectures:

Jan 07 Third Biennial meeting of the society of free radical research - Asia, Lonavala, India, Redox regulation of apoptosis: Caspase-dependent MnSOD degradation following activation of Fas (CD95) receptor in Jurkat T cells, **Invited lecture.**

June 08 First International Conference on Environmental Stressors in Biology and Medicine, Siena Italy, Tissue Response to Damage and the Adaptive Role of the Antioxidant Defense System. **Invited lecture**

October 10 Jerusalem Symposium on Molecular and Metabolic Dysfunction in Diabetes COST BM0602 - WG 3 and WG 4. Jerusalem, Mechanisms for dysfunction of non-alcoholic fatty liver. **Invited lecture**

March 11 16th Annual USC liver Research Center of Liver disease symposium, Los Angeles California, Mechanisms for dysfunction of non-alcoholic fatty liver by Hypoxia and endotoxemia, **Invited lecture**

March 11 BIT 3rd Annual International Congress of Ab. Beijing, China. **Invited lecture** (not attended due to teaching responsibilities)

May 11 Advanced workshop on new approaches in cardiovascular disorders Ankara/Turkey, Lipotoxic effects of triacylglycerols in macrophages foam cells. **Invited lecture**

Services at the Hebrew University School of Human Nutrition:

- 2003-2009: Member of the Study committee of The School of Nutritional Sciences.
- Thesis evaluator for Master's and Ph.D. students (three to four per year).
- Oct 2005- present: Member of the Sports and Recreation Center Committee

- Oct 2006- 2009: Member of the Research Committee.
- Oct 2007- Jan 2009: Member of the Animal Ethic Committee.
- Jan 2009- present: Head of the Animal Ethic Committee.
- 2008-Organizer of a Nutrition and Cancer course, The Division for External Studies. In collaboration with Roche Pharmaceutical (Israel) Ltd.

Reviewer of scientific manuscripts:

Antioxidants & Redox Signaling, Pharmacological Research

Diabetes, Obesity and Metabolism, Cellular and Molecular Life Sciences, The Journal of Biological Chemistry, BBA – Bioenergetics, Clinical Nutrition, FEBS Letters, Journal of Gene Medicine, Gene and Nutrition, Leukemia Research, Journal of Cellular and Molecular Medicine, British Journal of Anaesthesia, Journal of Cellular and Molecular Medicine, Laboratory Investigation, American Journal of Clinical Nutrition, Diabetes, Hepatology.

Courses taught at the School of Human Nutrition:

65214 Human Nutrition

71478 Principles in Pharmacology and Toxicology

73546 Antioxidants and Free Radicals in Biology