

Curriculum Vitae (July 2012)
Dr. Hilal Zaid, Ph.D.

Personal Details

Name: Hilal Zaid
Date and place of birth: October, 1974, Foridis, Israel
Marital Status: Married + 3 children
Address: POB 2336, 30091, Jat, Israel
Tel: +972-4-6286761/0
Fax: +972-4-6286762
E-mail: hilalz@qsm.ac.il
hilal.zaid@gmail.com

Higher Education

1999-2005 : M.Sc. & Ph.D. – The Department of Life Sciences (Major: Biochemistry and Molecular Biology), Ben-Gurion University of the Negev, Beer-Sheva, Israel.
Thesis Title: Divalent Cation Binding Sites in mitochondrial porin: Characterization, Localization and Function in Mitochondrial Activities in Cell's Life and Death.
Supervisor: Prof. Varda Shoshan-Barmatz.

2004-2005: Teaching Certificate, Ben-Gurion University of the Negev, Israel.

1995-1998 : B.Sc. – The Department of Life Sciences (Major: Biochemistry), Ben-Gurion University of the Negev, Beer-Sheva, Israel.
Research Project: Mitochondria Biogenesis in Yeast.
Supervisor: Dr. Cloud Aflalo.

Scientific Record

Since 2009 – Researcher, Al-Qasemi Academic College (Research center).

2008-2009(February)-Research Associate, The Department of Life Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel .

2008-2009 – Lecturer, Achva College, Israel.

2005-2008 - Postdoctoral fellow – Cell Biology Programme, The Hospital for Sick Children ,Toronto, ON, Canada.
Project title: Insulin-dependent Interactions of Proteins with Glucose Transporter-4.

Scholarships, Fellowships and awards

- 2002 – 2005:** Scholarship for **Excellent Arab PhD students**. The Council for Higher Education - Planning and Budgeting Committee, Israel.
- 2005** **Excellent** Poster Presentation Award- Zolotowski Center for Neurosciences annual retreat. Mitzpe Ramon, Israel.
- 2007** Post-Doctoral INMD Travel Award, Canadian Institutes of Health Research - Institute of Nutrition, Metabolism and Diabetes (CIHR-INMD).
- 2006 -2008:** Postdoctoral Fellowship, the Hospital for Sick Children Research Training Centre – Research training Competition (RESTERCOMP).
- 2008-2010:** Ministry of Absorption Fellowship for returning Israelis Scientists.

Patents

20080274962 Voltage Dependent Anion Channel (Vdac1) Compositions and Methods of Use Thereof for Regulating Apoptosis 11-06-2008 (European Patent Application EP1856145).

Membership in Professional Societies

1. European Foundation for the Study Diabetes (EFSD)
2. Israel Society for Cancer Research
3. The Israeli Society for Complementary Medicine

International Conferences organization

1. Scientific committee of "The First Regional Scientific Conference on Traditional Arabic and Islamic Medicine", Al-Qasemi Academy, Baqa, Israel. January 2010.
2. Scientific committee of "Integration of Traditional Medicine in Research and Clinic", Al-Qasemi Academy, Baqa, Israel. May 2011.

Editorial Experience

- 2007** Reviewer of manuscripts for the 'Journal of General Physiology'.
- 2010** Reviewer of manuscripts for 'JAMI'A'.
- 2011** Reviewer of manuscript s for 'Evidence-based Complementary and Alternative Medicine (eCAM)'.

Special Invitations

1. July 2010, Visiting Scientist, one month at the Klip lab; The Hospital for Sick Children, Program in Cell Biology, Toronto, ON, Canada. Participating in Insulin Resistance Treatments project.
2. February 2010, Invited Lecturer for Biology and Agriculture high school teachers. “Insulin Resistance treatment by medicinal plants: From tradition to Mechanism”. Neer-Haemik, Israel.
3. May 2010. Invited Lecturer at the 2nd Conference on Biotechnology Research and Applications in Palestine. “Palestinian Plants Increase glucose disposal by skeletal muscle cell line”. Al-Najah National University, Palestine.

Supervision

PhD thesis:

Sliman Qiadan (2011-present) “Novel anti-diabetic natural drug candidates: from herbs to identification of chemical structure and molecular mechanism”. Co-supervisors: Dr. Bashar Saad (QRC) and Dr. Yoel Sasson (Hebrew University, Jerusalem).

Master thesis:

Said Khasid (2011/2012) “Cancer cell lines sensitivity to apoptosis induction by Palestinian medicinal plants: mechanism(s) and doses”. Co-supervisor Dr. Nael Abo Hassan (Al-Najah National University, Nablus).

Semester projects:

1. Hanan Hosainiah and Layali Tayeh (2009/2010) “Identification of medicinal plants apoptotic induction mechanism in cancer cell lines”.
2. Hagar Abo-Ras and Rania Hateeb (209/2010) “Curcumin mechanism of apoptotic induction in cancer cell lines”.

3. Athamney Abed and Abu-Sablan Riham (2010/2011) “Mechanism of apoptosis induction by Fig’s milk”
4. Jorban Fatemah and Adaaf Amani (2010/2011) “Insulin resistance treatment by *Olea europea* L, and *Atriplex halimus* L”.
5. Kabaha samah and Melhem Hadeel (2010/2011) “The action mechanism of traditional Arab plants in treating diabetes type II”.

Research Fund:

Ministry of Absorption, Israel, Medicinal plants sensitize cancer chemotherapy, 2010-2011 (180,000 NIS).

Ministry of National Infrastructure, Israel, Combination of Arab traditional medicinal plants and Dead-Sea Climatographic Therapies for the treatment of psoriasis, 2010 -2011 (150,000 NIS).

MOFET Research Fund, Israel, Traditional antidiabetic treatments- from herbs to molecular mechanisms, 2011-2012 (20,000 NIS).

The Arab American University Research Fund, Palestine, In vitro evaluation of anti-apoptotic effects of medicinal plants as a promising strategy in cancer therapy, 2012- 2013 (28,000 NIS).

Teaching Experience

2008-present: Lecturer- Al-Qasemi Academic College, Baka, Israel.

2011-present: Lecturer (Associate Professor)- Arab American University, Jenin.

2008-2009: Research Associate, The Department of Life Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel

2008-2009: Lecturer (Biochemistry) Achva College.

2002 – 2004: Students laboratory course (advanced biochemistry) **coordinator,** Dept.of Life Sciences, Ben-Gurion University (BGU), Israel.

1998 - 2002: Teaching assistant, the Dept. of Life Sciences, BGU, Israel.

1998 – 2005: Biology teacher and coordinator at high school ("Bagrut" students), Kosaife village, Israel

Courses taught (for higher education students)

Biochemistry, Protein engineering, Advanced & Basic Biochemistry lab, Introduction to Biotechnology, Plant Physiology lab, Medicinal plants, Pharmacology, Genetics.

Technical experience

Protein and Biochemical •cell fractionation •enzyme assays •western blots •ELISA •protein chromatography (ion-exchange, gel-filtration, and affinity) •SDS-PAGE •protein phosphorylation assays • Proteoliposomes preparation • proteins Pull-down Immunoprecipitation.

Molecular and cellular •PCR • DNA libraries (cDNA and genomic) • site-directed mutagenesis • DNA sequencing • protein knock-down (siRNA) • epitope tagging • protein expression • microscopy (light, fluorescence, and immunofluorescence) • database mining.

Tissue culture • Mammalian Tissue culture (two major metabolic diseases cell culture models: Cancer and diabetes) • Yeast and bacteria.

Animal biochemistry and metabolism • study of carbohydrate metabolism in rats. Design animal experiments, test drugs for its in vivo influence.

List of publications

Papers

1. **Zaid H.**, Ismael-Shanak S., Michaeli A. and Rayan A (2012) Computerized techniques for modeling 3D structure of H4 receptor. *Frontiers in Bioscience*; 17: 232-247.
2. **Zaid H.**, Silbermann M., Ben-Areyieh E. and Saad B. (2012). Greco-Arab and Islamic herbal-derived anti-cancer modalities: From tradition to molecular mechanisms. *eCAM*; 2012: 1-13.
3. Kaadan S., Saad B., **Zaid H.** (2012). *In vitro* evaluations of safety and efficacy of traditionally used Greco-Arab and Islamic medicine-based anti-diabetic herbs. (Submitted to *eCAM*).
4. Rayan A., **Zaid H.** and Goldblum A. (2012) Implication of ISE for indexing molecules for their hERG liability. *In preparation*.
5. Kraeva N., **Zaid H.**, Rossi A.E., Goonasekera S., Frodis W., Sharma P., Zvaritch E., Kraev A., Dirksen R., MacLennan D.H. and Riazzi S. (2012). Novel Excitation-Contraction Uncoupler *RYR1* Mutations in Patients with Central Core Disease. (*Submitted to the Neuromuscular Diseases Journal*).
6. **Zaid H.**, Said O., Hadieh B. and Saad B. (2012) Diabetes prevention and treatment with Greco-Arab and Islamic-based natural products. *JAMI'A*; 15; 19-38.
7. Abo-Galion A. Kamil A., Rezekallah H. **Zaid H.** and Saad B. (2012) Arab and Islamic herbal Cancer treatment. (In Arabic) *JAMI'A*; 15; 161-176.
8. Hadieh B, Masalha M, **Zaid H.**, Abo Farich B, Said O and Saad B (2011). Anti-Inflammatory effects of herbal-derived factors are mediated by down regulation of pro-inflammatory cytokines. New Volume special for the second conference on Biotechnology and its application in Palestine.
9. **Zaid H.**, Raiyn J, Nasser, A., Saad B and Rayan A. (2010). Physicochemical Properties of Natural Based Products versus Synthetic Chemicals. *The Open Nutraceuticals Journal*; 3: 194-202.
10. **Zaid H.** and Saad B (2010). Cancer treatment in the Arab-Islamic medicine: Integration of tradition with modern experimental trails. *JAMI'A*, 14, 13-40.
11. **Zaid H.**, Rayan A., Said O. and Saad B (2010). Cancer treatment by Greco-Arab and Islamic herbal medicine. *The Open Nutraceuticals Journal*, 3: 203-212.

12. **Zaid H**, Talior-Volodarsky I, Antonescu CN and Klip A. (2009). GAPDH binds GLUT4 reciprocally to Hexokinase-II and regulates glucose transport activity. *Biochem J.* 419(2):475-84.
13. **Zaid H**, Antonescu CN, Randhawa VK, Klip A. (2008). Insulin action on glucose transporters through molecular switches, tracks and tethers. *Biochem J.* 15;413(2):201-15.
14. Talior-Volodarsky I, Randhawa VK, **Zaid H**, Klip A. (2008). Alpha-actinin-4 is selectively required for insulin-induced GLUT4 translocation. *J Biol Chem.* 2008 Sep 12;283(37):25115-23.
15. Shoshan-Barmatz V, Keinan N and **Zaid H** (2008). Uncovering the role of VDAC in the regulation of cell life and death. *J Bioenerg Biomembr.* 2008 Jun;40(3):183-91.
16. Abu- Hamad S.,**Zaid H**, Israelson A., Nahon E. and Shoshan-Barmatz V.(2008). Hexokinase-I protection against apoptotic cell death is mediated via interaction with the Voltage Dependent Anion Channe-1: mapping the site of binding. *J Biol Chem* 283(19):13482-90.
(* equal contribution.
17. Israelson A (*), **Zaid H** (*), Abu-Hamad S (*), Nahon E, Shoshan-Barmatz V. (2008). Mapping the ruthenium red-binding site of the voltage-dependent anion channel-1. *Cell Calcium* 43(2):196-204.
18. Israelson A., Abu-Hamad S.,**Zaid H**, Nahon E. and Shoshan-Barmatz V. (2006). Localization of the Voltage-Dependent Anion Channel-1 Ca²⁺-Binding Sites. *Cell Calcium* 41(3):235-44.
19. **Zaid H** (*), Abu-Hamad S. (*), Israelson A., Nathan I. and Shoshan-Barmatz V. (2005). The voltage-dependent anion channel modulates apoptotic cell death. *Cell death and differentiation.* 12(7):751-60.
20. Yehezkel G., Hadad N., **Zaid H**, Sara Sivan and Shoshan-Barmatz V. (2005). Nucleotide-binding sites in the voltage-dependent anion channel: Characterization and localization. *J Biol Chem.* 281(9):5938-46.
21. Gincel D., **Zaid H**. and Shoshan-Barmatz V.. (2001). Calcium binding and translocation by voltage-dependent anion channel: a possible regulatory mechanism in mitochondrial function. *Biochemical J.* 15;358 (Pt 1):147-55.

Book chapters

22. Saad B., **Zaid H**., and Said O. (2012) Tradition and Perspectives of Diabetes Treatment in Greco-Arab and Islamic Medicine. In: Bioactive Food as Dietary Interventions for Diabetes. Edited by Ronald R. Watson (*In Press*).

23. **Zaid H.**, and Saad B. (2012) State of the Art of Diabetes Treatment in Greco-Arab and Islamic Medicine. In: Bioactive Food as Dietary Interventions for Diabetes. Edited by Ronald R. Watson (*In Press*).
24. Said O., **Zaid H.**, and Saad B. (2011) Greco-Arab and Islamic herbal medicine and cancer treatment/prevention. In: Bioactive Foods and Extracts: Cancer Treatment and Prevention. Edited by Watson R.R and Preedy V.R, CRC Press.

Abstracts and Presentations

25. Qaadani S., AboFarech B., **Zaid H.** and Saad B. (2012) Anti-Oxidative and anti-diabetic plants action mechanism. Regional conference, Aqaba, Jordan.
26. **Zaid H.** (2011). Obesity and diabetes: Morbidity and Treatment with Herbal Medicine. Joint Conference of the Israeli Society for Complementary Medicine of the Israel Medical Association and Al-Qasemi Research Center. Baka, Israel.
27. **Zaid H.**, Said O and Saad B. (2010). Arab Herbal Medicine-based Combination of Four Anti-Diabetes Plants Stabilizes a Physiological Blood Glucose Level. The 46th EASD Annual Meeting, Stockholm, Sweden. **The abstract is published in the Diabetologia Journal.**
28. Hadieh B., **Zaid H.**, Abo-Farich B., Abo-Much A., Said O., Milner Y., and Saad B. (2010). The anti-psoriatic effects of herbal-derived factors as new drugs for combined psoriasis therapies. Israel – Jordan Research Cooperation Conference – Aqaba, Jordan.
29. **Zaid H.**, Said O and Saad B. (2010). Palestinian Plants Increase glucose disposal by skeletal muscle cell line. The 2nd Conference on Biotechnology Research and Applications in Palestine. An-Najah National University, Palestine.
30. **Zaid H.** and Klip A.(2007). GAPDH and Hexokinase-II interaction with GLUT4: A possible GLUT4-Metabolon. The American Diabetes Association (ADA) 67th scientific Session. Chicago, IL, USA.
31. **Zaid H.**, Talior I., and Klip A. (2006). GAPDH-GLUT4 interaction: characterization and possible function in insulin-regulated glucose uptake. 10th Annual CDA/CSEM Professional Conference and Annual Meetings. Toronto, Ontario, Canada.
32. **Zaid H.**, Talior I. and Klip A. (2006). Characterization of GLUT4-GAPDH binding sites and possible implications for glucose uptake. 49th Annual Meeting and Conference of the Canadian Society of Biochemistry,

Molecular and Cellular Biology. Niagara-on-the-Lake Ontario, Canada.
The abstract is published in the Biochemistry and Cell Biology Journal.

33. **Zaid H.**, Abu-Hamad S. and Shoshan-Barmatz V. (2005). Identification of Hexokinase-I and ruthenium red binding sites in the Voltage Dependent Anion Channel. The 14th International Symposium on Calcium and Calcium Binding Proteins in Health and Disease. Banff, Alberta, Canada.
34. Israelson A., **Zaid H.** and Shoshan-Barmatz V. (2005). Azido ruthenium specific labeling of Ca²⁺-binding proteins and localization of VDAC Ca²⁺-binding sites. The 14th International Symposium on Calcium and Calcium Binding Proteins in Health and Disease. Banff, Alberta Canada.
35. Abu-Hamad S., **Zaid H.**, Israelson A. and Shoshan Barmatz V. (2005). The voltage-dependent anion channel modulates apoptotic cell death. Zlotowski Center for Neuroscience annual retreat. Mitzpe Ramon, Israel.
EXCELLENT POSTER PRESENTATION AWARD.
36. Shoshan-Barmatz V., **Zaid H.**, Abu-Hamad S., Israelson A. (2005). A single mutation in VDAC prevents the interaction of hexokinase and ruthenium red with VDAC and their protective effect against apoptotic cell death. Biophysical Society 49th Annual meeting. California, US.
37. Abu-Hamad S., **Zaid H.**, Israelson A. and Shoshan Barmatz V. (2004). The voltage-dependent anion channel modulates apoptotic cell death. Annual meeting of the Israel Society for Physiology and Pharmacology. Maaleh Hahamisha, Israel. **EXCELLENT POSTER PRESENTATION** at the ISPP annual meeting on 23-9-04.
38. **Zaid H.**, Abu-Hamad S., Israelson A. and Shoshan-Barmatz V. (2004) "The voltage-dependent anion channel modulates apoptotic cell death" The 8th European Calcium Society Conference. Cambridge, UK.
39. **Zaid H.**, Israelson A., Sivan S. and Shoshan-Barmatz V. (2003) "Divalent Cation/Calcium Binding Sites in VDAC: Identification, Localization and Function in the Regulation of the channel Activities" Israel Society for Physiology and Pharmacology 2003 annual meeting.
40. Shoshan-Barmatz V., Gincel D., **Zaid H.** and Yehezkel G. (2002) "VDAC possesses ATP and divalent cations binding sites that regulate mitochondrial PT". Membrane Transport Proteins: Physiological & Pathological Implications, Gordon Research Conference.
41. **Zaid H.**, Gincel D. and Shoshan-Barmatz V. (2002) "divalent cations binding and modulation of VDAC" Israel Society for Physiology and Pharmacology 2002 annual meeting.

42. **Zaid H.**, Gincel D. and Shoshan-Barmatz V. (2002) “divalent cations binding and modulation of VDAC”. 7th European symposium on calcium-binding proteins in normal and transformed cells. Brussels, Belgium.
43. Gincel D., **Zaid H.** and Shoshan-Barmatz V. (2000) “Calcium translocation and binding by VDAC as a possible regulatory mechanism in mitochondrial function.” IUBMB 18th International Congress of Biochemistry and Molecular Biology.
44. Shoshan-Barmatz V., Gincel D. and **Zaid H.** (2000) “Calcium binding and translocation by VDAC: a possible regulatory mechanism in mitochondrial function.” 3rd Albany Conference on Frontiers of Mitochondrial research.
45. Gincel D., **Zaid H.** and Shoshan-Barmatz V. (2000) “Calcium binding and translocation by VDAC: a possible regulatory mechanism in mitochondrial function.” Israel Society for Physiology and Pharmacology 2000 annual meeting.