

## BIOGRAPHICAL SKETCH

<b>NAME</b> Aqeilan, Rami I.		<b>POSITION TITLE</b> Assistant Professor	
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INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
University of Jordan	BSc	1992-1996	Biological Sciences
Hebrew University-Hadassah Medical School	MSc	1996-1998	Cellular Biochemistry
Hebrew University-Hadassah Medical School	PhD	1998-2003	Cellular Biochemistry
Thomas Jefferson University	Post-doc	2002-2004	Cancer Biology

**A. Positions and Honors.****Positions and Employment**

- 2004-2005 Research Scientist, Human Cancer Genetics Program, Ohio State University, Columbus, OH.
- 2005- Research Assistant Professor, Comprehensive Cancer Center, Ohio State University, Columbus, OH.
- 2008- Senior Lecturer, Lautenberg Center for Immunology and Cancer Research, Hebrew University, Jerusalem.

**Professional Memberships & other activities**

- 2005- Active member, American Association for Cancer Research (AACR)
- 2009- Member, European Association for Cancer Research (EACR)
- 2010- Editorial Board Member: Journal of Nucleic Acid Investigation (JNAI); Journal of Cellular Biochemistry (JCB); American Journal of Cancer Research (AJCR); Frontiers of Genetics-Non-coding RNA; Cell Death & Disease (CDDis).
- 2010- Founding member of the Palestinian Forum for Medical Research (PFMR)

**Honors and Awards**

- 2001 Luxembourg Scholarship for Graduate Students-Hebrew University.
- 2001 The Hebrew University Scholarship of Excellence.
- 2005 Sidney Kimmel Scholar Award for Cancer Research.
- 2007 Ohio Cancer Research Associates Award.
- 2008 Bergman Research Memorial Award.
- 2010 Israeli Cancer Association Excellence Award
- 2010 Research Excellence Award from the Hebrew University-Hadassah Medical School

**B. Research Interest.**

Our laboratory has had a long-term interest in the genetic and molecular basis of cancer development. As a cancer biology lab, we believed that the best approach against disease is to obtain a better understanding of its molecular basis. Therefore, the ultimate goal of our research is to discover the genes and to elucidate the pathways that represent targets for the development of rational, specific and effective therapeutic approaches to cancer. Our research has taken advantage of mouse models, tissue culture, human clinical samples and high throughput research tools. Most recently, we have been studying the early events contributing to the pathogenesis of pediatric osteosarcoma and breast cancer. In particular, we investigate the role of the *WWOX* fragile genes in cancer development and how defects in DNA damage response checkpoints is associated with fragile genes. In addition, we have great interest in studying the role of microRNAs in cancer development. Through our research studies we hope to further our molecular understanding of how signal pathways of fragile genes and microRNAs, that are implicated in cancer cells, contribute to tumor growth.

**List of Publication.**

1. **Aqeilan R**, Yarkoni S, Lorberboum-Galski H: Interleukin 2-bax: A novel prototype of human chimeric proteins for targeted therapy. **FEBS Lett** 1999;457:271-276.
2. Ben-Yehudah A, **Aqeilan R**, Belostotsky R, Azar Y, Lorberboum-Galski H: Utilizing chimeric proteins for exploring the cellular fate of endogenous proteins. **Biochem Biophys Res Commun** 2002;290:332-338.
3. **Aqeilan R**, Kedar R, Ben-Yehudah A, Lorberboum-Galski H: Mechanism of action of interleukin-2 (il-2)-bax, an apoptosis-inducing chimaeric protein targeted against cells expressing the il-2 receptor. **Biochem J** 2003;370:129-140.
4. Ben-Yehudah A, **Aqeilan R**, Robashkevich D, Lorberboum-Galski H: Using apoptosis for targeted cancer therapy by a new gonadotropin releasing hormone-DNA fragmentation factor 40 chimeric protein. **Clin Cancer Res** 2003;9:1179-1190.
5. **Aqeilan RI**, Kuroki T, Pekarsky Y, Albagha O, Trapasso F, Baffa R, Huebner K, Edmonds P, Croce CM: Loss of wwox expression in gastric carcinoma. **Clin Cancer Res** 2004;10:3053-3058.
6. **Aqeilan RI**, Palamarchuk A, Weigel RJ, Herrero JJ, Pekarsky Y, Croce CM: Physical and functional interactions between the wwox tumor suppressor protein and the ap-2gamma transcription factor. **Cancer Res** 2004;64:8256-8261.
7. **Aqeilan RI**, Pekarsky Y, Herrero JJ, Palamarchuk A, Letofsky J, Druck T, Trapasso F, Han SY, Melino G, Huebner K, Croce CM: Functional association between wwox tumor suppressor protein and p73, a p53 homolog. **Proc Natl Acad Sci U S A** 2004;101:4401-4406.
8. Kuroki T, Yendamuri S, Trapasso F, Matsuyama A, **Aqeilan RI**, Alder H, Rattan S, Cesari R, Nolli ML, Williams NN, Mori M, Kanematsu T, Croce CM: The tumor suppressor gene wwox at fra16d is involved in pancreatic carcinogenesis. **Clin Cancer Res** 2004;10:2459-2465.
9. Pekarsky Y, Garrison PN, Palamarchuk A, Zanesi N, **Aqeilan RI**, Huebner K, Barnes LD, Croce CM: Fhit is a physiological target of the protein kinase src. **Proc Natl Acad Sci U S A** 2004;101:3775-3779.
10. Pekarsky Y, Zanesi N, Aqeilan R, Croce CM: Tcl1 as a model for lymphomagenesis. **Hematol Oncol Clin North Am** 2004;18:863-879, ix.
11. Trapasso F, Sarti M, Cesari R, Yendamuri S, Dumon KR, **Aqeilan RI**, Pentimalli F, Infante L, Alder H, Abe N, Watanabe T, Viglietto G, Croce CM, Fusco A: Therapy of human pancreatic carcinoma based on suppression of hmga1 protein synthesis in preclinical models. **Cancer Gene Ther** 2004;11:633-641.
12. **Aqeilan RI**, Donati V, Palamarchuk A, Trapasso F, Kaou M, Pekarsky Y, Sudol M, Croce CM: Ww domain-containing proteins, wwox and yap, compete for interaction with erbb-4 and modulate its transcriptional function. **Cancer Res** 2005;65:6764-6772.
13. Cimmino A, Calin GA, Fabbri M, Iorio MV, Ferracin M, Shimizu M, Wojcik SE, **Aqeilan RI**, Zupo S, Dono M, Rassenti L, Alder H, Volinia S, Liu CG, Kipps TJ, Negrini M, Croce CM: Mir-15 and mir-16 induce apoptosis by targeting bcl2. **Proc Natl Acad Sci U S A** 2005;102:13944-13949.
14. Fabbri M, Iliopoulos D, Trapasso F, **Aqeilan RI**, Cimmino A, Zanesi N, Yendamuri S, Han SY, Amadori D, Huebner K, Croce CM: Wwox gene restoration prevents lung cancer growth in vitro and in vivo. **Proc Natl Acad Sci U S A** 2005;102:15611-15616.
15. Palamarchuk A, Efanov A, Maximov V, **Aqeilan RI**, Croce CM, Pekarsky Y: Akt phosphorylates and regulates pdcd4 tumor suppressor protein. **Cancer Res** 2005;65:11282-11286.

16. Palamarchuk A, Efanov A, Maximov V, **Aqeilan RI**, Croce CM, Pekarsky Y: Akt phosphorylates tal1 oncoprotein and inhibits its repressor activity. **Cancer Res** 2005;65:4515-4519.
17. Pekarsky Y, Calin GA, **Aqeilan R**: Chronic lymphocytic leukemia: Molecular genetics and animal models. **Curr Top Microbiol Immunol** 2005;294:51-70.
18. Sarti M, Sevignani C, Calin GA, **Aqeilan R**, Shimizu M, Pentimalli F, Picchio MC, Godwin A, Rosenberg A, Drusco A, Negrini M, Croce CM: Adenoviral transduction of testin gene into breast and uterine cancer cell lines promotes apoptosis and tumor reduction in vivo. **Clin Cancer Res** 2005;11:806-813.
19. Segel MJ, **Aqeilan R**, Zilka K, Lorberboum-Galski H, Wallach-Dayana SB, Conner MW, Christensen TG, Breuer R: Effect of il-2-bax, a novel interleukin-2-receptor-targeted chimeric protein, on bleomycin lung injury. **Int J Exp Pathol** 2005;86:279-288.
20. Garzon R, Pichiorri F, Palumbo T, Iuliano R, Cimmino A, **Aqeilan R**, Volinia S, Bhatt D, Alder H, Marcucci G, Calin GA, Liu CG, Bloomfield CD, Andreeff M, Croce CM: MicroRNA fingerprints during human megakaryocytopoiesis. **Proc Natl Acad Sci U S A** 2006;103:5078-5083.
21. Gaudio E, Palamarchuk A, Palumbo T, Trapasso F, Pekarsky Y, Croce CM, **Aqeilan RI\***: Physical association with wwox suppresses c-jun transcriptional activity. **Cancer Res** 2006;66:11585-11589.\* Corresponding author.
22. Palamarchuk A, Zanasi N, **Aqeilan RI**, Efanov A, Maximov V, Santanam U, Hagan JP, Croce CM, Pekarsky Y: Tal1 transgenic expression reveals absence of b lymphocytes. **Cancer Res** 2006;66:6014-6017.
23. Pichiorri F, Trapasso F, Palumbo T, **Aqeilan RI**, Drusco A, Blaser BW, Iliopoulos D, Caligiuri MA, Huebner K, Croce CM: Preclinical assessment of fh1t gene replacement therapy in human leukemia using a chimeric adenovirus, ad5/f35. **Clin Cancer Res** 2006;12:3494-3501.
24. Rossi M, **Aqeilan RI**, Neale M, Candi E, Salomoni P, Knight RA, Croce CM, Melino G: The e3 ubiquitin ligase itch controls the protein stability of p63. **Proc Natl Acad Sci U S A** 2006;103:12753-12758.
25. Trapasso F, Drusco A, Costinean S, Alder H, **Aqeilan RI**, Iuliano R, Gaudio E, Raso C, Zanasi N, Croce CM, Fusco A: Genetic ablation of ptpn22, a mouse cancer susceptibility gene, results in normal growth and development and does not predispose to spontaneous tumorigenesis. **DNA Cell Biol** 2006;25:376-382.
26. Zanasi N, **Aqeilan R**, Drusco A, Kaou M, Sevignani C, Costinean S, Bortesi L, La Rocca G, Koldovsky P, Volinia S, Mancini R, Calin G, Scott CP, Pekarsky Y, Croce CM: Effect of rapamycin on mouse chronic lymphocytic leukemia and the development of nonhematopoietic malignancies in emu-tcl1 transgenic mice. **Cancer Res** 2006;66:915-920.
27. **Aqeilan RI\***, Croce CM: Wwox in biological control and tumorigenesis. **J Cell Physiol** 2007;212:307-310.\* Corresponding author.
28. **Aqeilan RI\***, Donati V, Gaudio E, Nicoloso MS, Sundvall M, Korhonen A, Lundin J, Isola J, Sudol M, Joensuu H, Croce CM, Elenius K: Association of wwox with erbb4 in breast cancer. **Cancer Res** 2007;67:9330-9336.\* Corresponding author.
29. **Aqeilan RI\***, Hagan JP, Aqeilan HA, Pichiorri F, Fong LY, Croce CM: Inactivation of the wwox gene accelerates forestomach tumor progression in vivo. **Cancer Res** 2007;67:5606-5610.\* Corresponding author.

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31. Donati V, Fontanini G, Dell'Omodarme M, Prati MC, Nuti S, Lucchi M, Mussi A, Fabbri M, Basolo F, Croce CM, **Aqeilan RI\***: *Wwox* expression in different histologic types and subtypes of non-small cell lung cancer. *Clin Cancer Res* 2007;13:884-891.\* Corresponding author.
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33. Oberst A, Malatesta M, **Aqeilan RI**, Rossi M, Salomoni P, Murillas R, Sharma P, Kuehn MR, Oren M, Croce CM, Bernassola F, Melino G: The *nedd4-binding partner 1 (n4bp1)* protein is an inhibitor of the *e3* ligase *itch*. *Proc Natl Acad Sci U S A* 2007;104:11280-11285.
34. Pekarsky Y, Zanesi N, **Aqeilan RI**, Croce CM: Animal models for chronic lymphocytic leukemia. *J Cell Biochem* 2007;100:1109-1118.
35. Sayan BS, Sayan AE, Yang AL, **Aqeilan RI**, Candi E, Cohen GM, Knight RA, Croce CM, Melino G: Cleavage of the transactivation-inhibitory domain of *p63* by caspases enhances apoptosis. *Proc Natl Acad Sci U S A* 2007;104:10871-10876.
36. **Aqeilan RI**, Hassan MQ, de Bruin A, Hagan JP, Volinia S, Palumbo T, Hussain S, Lee SH, Gaur T, Stein GS, Lian JB, Croce CM: The *wwox* tumor suppressor is essential for postnatal survival and normal bone metabolism. *J Biol Chem* 2008;283:21629-21639.\* Corresponding author.
37. Calin GA, Cimmino A, Fabbri M, Ferracin M, Wojcik SE, Shimizu M, Taccioli C, Zanesi N, Garzon R, **Aqeilan RI**, Alder H, Volinia S, Rassenti L, Liu X, Liu CG, Kipps TJ, Negrini M, Croce CM: *Mir-15a* and *mir-16-1* cluster functions in human leukemia. *Proc Natl Acad Sci U S A* 2008;105:5166-5171.
38. Lee JC, Weissglas-Volkov D, Kyttala M, Dastani Z, Cantor RM, Sobel EM, Plaisier CL, Engert JC, van Greevenbroek MM, Kane JP, Malloy MJ, Pullinger CR, Huertas-Vazquez A, Aguilar-Salinas CA, Tusie-Luna T, de Bruin TW, Aouizerat BE, van der Kallen CC, Croce CM, **Aqeilan RI**, Marcil M, Viikari JS, Lehtimaki T, Raitakari OT, Kuusisto J, Laakso M, Taskinen MR, Genest J, Pajukanta P: *Ww*-domain-containing oxidoreductase is associated with low plasma hdl-c levels. *Am J Hum Genet* 2008;83:180-192.
39. Melino G, Gallagher E, **Aqeilan RI**, Knight R, Peschiaroli A, Rossi M, Scialpi F, Malatesta M, Zocchi L, Browne G, Ciechanover A, Bernassola F: *Itch*: A hect-type *e3* ligase regulating immunity, skin and cancer. *Cell Death Differ* 2008;15:1103-1112.
40. Nakayama S, Semba S, Maeda N, **Aqeilan RI**, Huebner K, Yokozaki H: Role of the *wwox* gene, encompassing fragile region *fra16d*, in suppression of pancreatic carcinoma cells. *Cancer Sci* 2008;99:1370-1376.
41. Pichiorri F, Suh SS, Ladetto M, Kuehl M, Palumbo T, Drandi D, Taccioli C, Zanesi N, Alder H, Hagan JP, Munker R, Volinia S, Boccadoro M, Garzon R, Palumbo A, **Aqeilan RI\***, Croce CM\*: MicroRNAs regulate critical genes associated with multiple myeloma pathogenesis. *Proc Natl Acad Sci U S A* 2008;105:12885-12890.\* Corresponding author.
42. Sundvall M, Korhonen A, Paatero I, Gaudio E, Melino G, Croce CM, **Aqeilan RI\***, Elenius K\*: Isoform-specific monoubiquitination, endocytosis, and degradation of alternatively spliced *erbb4* isoforms. *Proc Natl Acad Sci U S A* 2008;105:4162-4167.\* Corresponding author.

43. Trapasso F, Pichiorri F, Gaspari M, Palumbo T, **Aqeilan RI**, Gaudio E, Okumura H, Iuliano R, Di Leva G, Fabbri M, Birk DE, Raso C, Green-Church K, Spagnoli LG, Venuta S, Huebner K, Croce CM: Fhit interaction with ferredoxin reductase triggers generation of reactive oxygen species and apoptosis of cancer cells. *J Biol Chem* 2008;283:13736-13744.
44. **Aqeilan RI**, Hagan JP, de Bruin A, Rawahneh M, Salah Z, Gaudio E, Siddiqui H, Volinia S, Alder H, Lian JB, Stein GS, Croce CM: Targeted ablation of the ww domain-containing oxidoreductase tumor suppressor leads to impaired steroidogenesis. *Endocrinology* 2009;150:1530-1535. \* Corresponding author.
45. **Aqeilan RI\***, Zanesi N, Croce CM: The biology and treatment of cancer: Understanding cancer; in Pardee AB, Stein GS (eds): Environmental, genetic and viral causes of cancer, Wiley, 2009, pp 35-56.
46. Li Z, Hassan MQ, Jafferji M, **Aqeilan RI**, Garzon R, Croce CM, van Wijnen AJ, Stein JL, Stein GS, Lian JB: Biological functions of mir-29b contribute to positive regulation of osteoblast differentiation. *J Biol Chem* 2009;284:15676-15684.
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48. Del Mare S, Salah Z, **Aqeilan RI\***: Wwox: Its genomics, partners, and functions. *J Cell Biochem* 2009;108:737-745. \* Corresponding author.
49. **Aqeilan RI\***, Calin GA, Croce CM: Mir-15a and mir-16-1 in cancer: Discovery, function and future perspectives. *Cell Death Differ* 2010. 17(2):215-20. \* Corresponding author.
50. Salah, Z., **R.I. Aqeilan**, and K. Huebner. 2009. The WWOX gene and gene product: tumor suppression through specific protein interactions. *J Fut Onc*. 2010; 6(2)249-259.
51. Volinia S, Galasso M, Tagliavini L, Gamberoni G, Drusco A, Marchesini J, Mascellani N, Elena Sana M, Abu Jarour R, Desponts C, Teitell M, Baffa R, **Aqeilan R**, et al. Reprogramming of miRNA networks in cancer and leukemia. *Genome Research*. 2010; 20(5):589-99.
52. Kurek K, Del Mare S, Salah Z, Abdeen S, Sadiq H, Lee S, Gaudio E, Zanesi N, Jones K, DeYoung B, Amir G, Gebhardt M, Warman M, Stein GS, Stein JL, Lian JB, **Aqeilan RI\***. Frequent attenuation of the WWOX tumor suppressor in osteosarcoma is associated with increased tumorigenicity and aberrant RUNX2 expression. *Cancer Research*. 2010. 70(13):5577-86. \*Corresponding author.
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