

**Karli Rosner, M.D., Ph.D.**  
Research-Educator Track

Department of Dermatology,  
Center for Molecular Medicine and Genetics (CMMG) - Joint Faculty  
School of Medicine (SOM)  
Wayne State University (WSU)  
Prentis Bldg. – Rm 2216  
110 E. Warren Ave.  
Detroit, MI 48201

<b>EDUCATION</b>	<b>DATES</b>
<b>Ph.D.:</b> University of Copenhagen, Copenhagen, Denmark	2001
<b>Specialization in Dermatology:</b> Ha'emek Medical Center, Afula, Israel	1996
<b>M.D.:</b> Faculty of Medicine, Ben-Gurion University, Beer Sheva, Israel	1988
<b>B.M.Sc.:</b> Faculty of Medicine, Ben-Gurion University, Beer Sheva, Israel	1983
 <b>POSTGRADUATE TRAINING</b>	
Safety and Risks of Nanotechnologies and Nanoparticles to Workers and Citizens, Copenhagen, Denmark ( <i>A full intensive one week course</i> )	2008
Association of American Medical Colleges (AAMC) Essentials In Resident Education – a two-year program Medical Education Research Certificate (MERC)	2006-2008
Faculty of Medicine, University of Copenhagen, Copenhagen, Denmark Ph.D. Student	1997-2001
Immunology and Molecular Biology, Laboratory of Molecular Genetics, National Institute of Aging (NIA), National Institutes of Health (NIH) Baltimore, MD, U.S. ( <i>The Projects carried out at the NIA served as the basis for my Ph.D. dissertation in Copenhagen, Denmark. Also since 1997 I was a Ph.D. student at Copenhagen University</i> ) Postdoctoral Research Fellow	1996-1998
Department of Dermatology, HaEmeck Medical Center, Afula, Israel Resident	1990-1996

Immunology, Department of Dermatology, Rigshospitalet, Copenhagen, Denmark. Postdoctoral Research Fellow <i>(The period of time and research conducted in Denmark was included in my dermatology residency in Israel, which required at least six months of research as part of the dermatology curriculum)</i>	1992-1993
Immunohistochemistry, Department of Pathology, Herlev Hospital, Herlev, Denmark Postdoctoral Research Fellow	1992
Department of Internal Medicine, HaEmeck Medical Center, Afula, Israel Resident	1988-1990
Rotating Internships, Assaf Haroffeh Hospital, Rishon-Lezion, Israel Intern	1987-1988

### **FACULTY APPOINTMENTS**

Joint Dermatology - Center for Molecular Medicine and Genetics (CMMG) Appointment	2014-present
Assistant Professor - Tenure-Track	2008-present
Assistant Professor – Clinician Educator	2006-2008

### **ADMINISTRATIVE APPOINTMENTS**

Department of Dermatology, Wayne State University School of Medicine, Detroit, MI, U.S. Director of Dermatologic Research – acting since 09/01/2006 <a href="http://dermatology.med.wayne.edu/research.php">http://dermatology.med.wayne.edu/research.php</a>	2006-present
Department of Dermatology, Rigshospitalet/ Bispebjerg Hospital, Copenhagen, Denmark Senior Investigator <i>(In 1996, I joined the above institute in Denmark as an M.D.-dermatologist. I had been sent on 1996 by Denmark as a postdoc to the NIH to study molecular biology and to return in 1998 to Denmark and to open a molecular biology laboratory. In 1997, while acting as a postdoc in the U.S. on the basis of my M.D.-dermatologist background, I also started Ph.D. studies at the University of Copenhagen)</i>	1996-2006
The Israel Society of Dermatology National Chief Resident <i>(In Israel, Departments of Dermatology did not have Chief Residents; instead, one Chief Resident represented all the country's dermatology residents at the meetings of the Board of the 'Israel Society of Dermatology')</i>	1991

## HOSPITAL OR OTHER PROFESSIONAL APPOINTMENTS

Melanoma and Cutaneous Lymphoma Clinic, Department of Dermatology, Karmanos Cancer Institute, Detroit, MI, U.S. Acting Dermatologist	2007-2010
Department of Dermatology, HaEmeck Medical Center, Afula, Israel Acting Dermatologist	1996

## MAJOR PROFESSIONAL SOCIETIES

Society for Melanoma Research, U.S.	2011-present
American Academy of Dermatology, U.S.	2006-present
Michigan Dermatological Society, U.S.	2006-present
Michigan State Medical Society, U.S.	2006-present
Wayne County Medical Society of Southeast Michigan, U.S.	2006-present
The Israel Society for Surgical Dermatology	2002-present
Israel Society for Dermatology & Venereology	1990-present
The Israel Medical Association	1988-present

## MEDICAL LICENSURE

Clinical Academic Limited License, Board of Medicine Physician, State of Michigan; L2559948 (active until 01/31/2017)	2007-2017
Controlled Substance License, Board of Pharmacy, State of Michigan, L2559948 (active until 01/31/2017)	2007-2017
Board Certified, Dermatology, Israel Ministry of Health, No. 14933 (Israel, active)	1996-present

## BOARD CERTIFICATION

<b>Board Certified, Dermatology</b> , Israel Ministry of Health, No. 14933 (Israel, active) <i>(In Israel, the Board Certificate is issued by the Israel Ministry of Health)</i>	1996-present
<b>Medical License</b> , Israel Ministry of Health, No. 019464 (Israel, active)	1988-present

## HONORS/AWARDS

- The Israel Society of Dermatology Award** 1994  
 Jerusalem, Israel  
 The award recognizes the “1994 Best Scientific Research,” by a dermatology resident. One award annually – national competition.
- The Mauritzen La Fontaine Family Award** 1992  
 Rigshospitalet, Copenhagen University Hospital, Copenhagen, Denmark  
 Scholarship to promote science research. One award annually.
- Department of Dermatology Travel Award** 1992  
 HaEmeck Medical Center, Afula, Israel  
 The award highlights initiative to design and conduct an FDA compatible clinical trial for testing water-resistant sunscreens; To attend the ‘18th World Congress of Dermatology,’ New York, New York, U.S. One award annually for department residents.
- Gulton Research Foundation Award** 1983  
 Faculty of Medicine, Ben-Gurion University, Beer-Sheva, Israel  
 Scholarship for medical students to practice science.  
 I am not aware of any other Student getting this award in 1983.

## SERVICE

### Wayne State University

#### A. Departmental: Department of Dermatology

1. **Establishing Molecular Biology Research Laboratory** 2007  
 Establishing from scratch the ‘Laboratory for Molecular Dermatology’ for the Department of Dermatology.
2. **Undergraduate Committee** 2012-2013
3. **Research Assessments for the Annual Departmental Reviews** 2011-2012  
 Led teams of department personnel in conducting research-oriented SWOT analysis (Strengths, Weaknesses, Opportunities and Threats).
4. **External Five-Year Department Evaluation** 2011  
 Prepared the Research section of the report and presented the Department’s Research to the external review committee.

**B. Institutional:** School of Medicine

**Associate Chairs for Research Committee**, Wayne State University,  
Detroit, MI, USA (monthly meetings) 2012

**Scholarly Service****National**

National Institutes of Health (NIH) 2013-present  
Small Business SBIR/STTR  
Cancer Drug Developments & Therapeutics Study Section  
Full Member Reviewer (*fifth reviewing cycle on July 14-15/2015*)

**Service for Peer-Reviewed Journals**

Journal of Experimental Dermatology and Clinical Research 2014-present  
Mitochondrion 2013  
International Journal of Dermatology 2008

**Editorial Board Membership**

Journal of Experimental Dermatology and Clinical Research 2014-present

**OTHER SERVICE****Lectures to community**

Various audience types (including local community clubs, women's 1999-2006  
Health clubs, ethnic clubs, high schools and professional community 1991-1996  
organizations, etc.) in Israel and Denmark.  
Selected Titles from approximately 20 titles:  
'What is Cancer and How is it Treated?'  
'What is Immunology and What is its Role in Chronic Diseases  
and Cancer?'  
'What is Gene Therapy and How Can it be Applied to Our Health?'  
'Skin Damage and Diseases Induced by the Sun'  
'Pros and Cons of Plastic Surgery', etc.

## Public Radio Interviews

WDET 101.9FM - Detroit Public Radio (Detroit, MI, USA); 'Genetic Therapy That Fools Cancer Cells Into Committing Suicide'	2011
Radio Shalom (Copenhagen, Denmark); weekly column: 'New Innovations in Medicine and Science'	2001-2004 (weekly)

## Public Television Interview

30 min. Broadcast on Kanal København (Channel Copenhagen), TV Chai (Copenhagen, Denmark); 'The Impact of Immunology and Molecular Biology on Our Health'	2002
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## TEACHING

### Teaching at Wayne State University

#### Graduate students

Cancer Biology Program; Course in Cancer Biology for Ph.D. students. Lecture title: 'Integrating molecular concepts using melanoma as a model.' The lecture was followed after a week by A corresponding workshop (Total presentation: 3h)	2011 2013
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#### Medical students

Dermatology Pathophysiology Course for second year medical students. Lecture title: 'Pathophysiology and Genetics of Melanoma' (medical student level)	2008 2009 2010 2011
Dermatology Pathophysiology Course for second year medical students. Title: 'Nevi and Malignant Melanoma' (medical student level)	2013 2014 2015

#### Dermatology residents

Pathophysiology and genetics of melanoma (Dermatology peer level)	2008 2009
The Menzies method for dermoscopy – diagnosis of melanoma	2008 2010 2011 2012 2013

	2014 2015
‘Dermoscopy usage for amelanotic melanoma diagnosis’	2008 2011-part I 2011-part II 2012 2013 2014 2015
‘Dermoscopy usage for palmoplantar pigmented nevi and acrolentiginous melanoma’	2008 2010 2011 2012 2013 2014 2015
Dermoscopy: pigmented lesions – melanocytic or non-melanocytic?	2011
Teaching Basic Science - <i>Journal Investigative Dermatology</i> – Journal club lectures	2008 2009a 2009b 2010-part I 2010-part II 2012-part I 2012-part II 2014-part- I 2014-part III
‘Basic immunology – dermatology related cell mediated immunity’	2009 2010 2012 2013
‘Basic immunology – Th17 lymphocytic groups, their cytokines and emerging dermatologic therapies’	2009 2010 2011-Part I 2011-part II 2015
‘Basic immunology – dermatology disease’	2012 2013 2015
‘Etiology and updated staging and treatment of melanoma’	2011

‘Clinical tools for melanoma diagnosis and differentiating melanoma from nevi’	2014 2015
‘Clinical ambulatory instruction: practicing dermoscopy and general dermatology;’ Dermatology clinic, Karmanos Cancer Inst	2008 (weekly) 2009 (weekly) 2010 (weekly)

## Faculty

<b>Grand Rounds:</b> ‘Dermoscopy of melanotic and amelanotic malignant melanoma’	2009
<b>Grand Rounds:</b> ‘Dermoscopy analysis of eight pigmented lesions’	2010
<b>Grand Rounds:</b> ‘Novel gene therapy platform to overcome cancer resistance’	2010
<b>Division of Infectious Diseases Fellowship Program:</b> ‘Introduction to Emergency Dermatology’	2012
<b>Grand Rounds:</b> ‘A Novel, Effective, In Vivo Treatment against Melanoma’	2015

## Teaching at other institutions

### Medical students

Department of Dermatology, Bispebjerg Hospital, Copenhagen	2004
University Hospital. Dermatology course for foreign medical students. Lecture title: ‘Vesicular and Bullous Diseases’	2005

### Dermatology Residents

Department of Dermatology, University of Wisconsin, Madison, Wisconsin, <b>USA</b> . Title: ‘hrDNase1 personalized therapy for metastatic melanoma’	2012
Department of Dermatology, University of Wisconsin, Madison, Wisconsin, <b>USA</b> . ‘Dermoscopy: Menzies method and palmoplantar pigmented nevi and melanoma’	2012
Division of Dermatology, Department of Medicine, Ottawa Hospital, Ottawa, <b>Canada</b> . Title: ‘Dermoscopy: Menzies method and palmoplantar pigmented nevi and melanoma’	2006
Immunology Course – continuous education, Faculty of Medicine, Tel-Aviv University, Tel-Aviv, <b>Israel</b> . Title: ‘Introduction to Immunology.’	1993



## Fellows

Division of Dermatology, Department of Medicine, Ottawa Hospital, Ottawa, **Canada**. ‘Melanoma: Etiology From a Very Different Angle’ 2006

## Mentorship

Laurel Leithauser, medical student, WSU – ‘Blood test for melanoma diagnosis;’ toward a review paper. 2008

Alexandra Horenstein, undergraduate student, Rochester University, NY – ‘Genetic signature of UV;’ ‘A novel gene therapy modality to overcome metastatic melanoma resistance.’ 2008  
2009  
Publication: *Cancer Gene Therapy*, PMID: 21233855.

Zuhair Peracha, medical student, WSU – ‘The role of latitude/UVB in melanoma etiology.’ toward a review paper. 2008

Manal Hanif Peracha, medical student, WSU – ‘The role of latitude/UVB in melanoma etiology.’ toward a review paper. 2008

Harold Thurston, medical student, WSU – ‘Genetic signature of UV;’ ‘A novel gene therapy modality to overcome metastatic melanoma resistance.’ 2009  
Poster presentation: WSU SOM Student research day. Publication: *Cancer Gene Therapy*, PMID: 21233855.

Leonard Kerwin, medical student, WSU; volunteered work, placed as a research assistant for 14 months during a period between USMLE-3 exam and a one Rotations year. 2009  
2010  
‘A novel gene therapy modality to overcome metastatic melanoma resistance.’  
Publication: *Cancer Gene Therapy*, PMID: 21233855.

Elena Hadjicharalambous, medical student, WSU – ‘The Impact of Tumor HLA-I Expression on Melanoma Progression;’ An extensive immunohistochemistry study, laboratory work finished, currently at a stage of data analysis. 2011  
2013  
2014

Jillian Frieder, medical student, WSU – ‘The Impact of Tumor HLA-I Expression on Melanoma Progression’ and ‘The role of beta- Catenin, Wnt4, Wnt5a, Wnt5b, Wnt11 & Rad6B in Melanoma Progression.’ 2012  
Publication: *J Skin Cancer*, PMID: 24891954.

- Kelsey Lawrence, medical student, WSU – ‘The Impact of Tumor HLA-I Expression on Melanoma Progression;’ ‘The Impact of Tumor HLA-I Expression on Melanoma Progression’ and ‘The role of beta-Catenin, Wnt4, Wnt5a, Wnt5b, Wnt11 & Rad6B in Melanoma Progression.’  
Publication: *J Skin Cancer*, PMID: 24891954. 2012
- Tal Rosner, Chemical Engineering Student, WSU - ‘Eradication of Multiple Primary and Metastatic Melanoma Types in Vitro by Human Recombinant DNase1’  
Publication: *J Exp Derm Clin Res*, 2014. 2014  
2015
- Lindsay Sklar, dermatology resident, WSU – ‘The Impact of Tumor HLA-I Expression on Melanoma Progression;’ An extensive immunohistochemistry study, laboratory work finished, currently at a stage of data analysis. 2014
- Chelsea St. Claire, medical student, Michigan State University - ‘Targeted therapies for metastatic melanoma;’ toward a review paper. 2015
- (The following two mentees I separated from the above 13 mentees because they worked in my laboratory as research assistants with salary. However, these two mentees were students in transit and I had the opportunity to mentor them for longer time than any other mentee. Apparently, I impacted not only their projects, but also their career course. Michael Kasprzak got enough confidence to enroll at a medical school and in his personal letter to me he attributed his success there to my mentorship. Similarly, Evangelia Kirou who changed her career to a health profession wrote several moving letters thanking and praising the mentorship she received)*
- Michael Kasprzak, graduated from University of Michigan, and after a period in my laboratory as research assistant continued as a DO medical student at Nova Southeastern University, Miami, FL - ‘A novel gene therapy modality to overcome metastatic melanoma resistance.’  
Publication: *Cancer Gene Therapy*, PMID: 21233855. 2008  
2009
- Evangelia Kirou, graduated with a master from Windsor University, Canada, and after a period in my laboratory as research assistant continued as physiotherapy student at University of Western Ontario, London, Canada - ‘The role of beta-Catenin, Wnt4, Wnt5a, Wnt5b, Wnt11 & Rad6B in Melanoma Progression.’  
Publication: *Translational Oncology*, PMID: 24831578. 2010 (part)  
2011  
2012  
2013 (part)  
Publication: *J Skin Cancer*, PMID: 24891954.  
Publication: *J Exp Derm Clin Res*, 2014.

## GRANTS, CONTRACTS, AND OTHER FUNDING

### Active Grant

Role: Co-I (PI: Dr. Malathy Shekhar)  
 Title: 'Development of an In Vivo Topical Delivery-Compatible Therapy for Treatment of Melanoma'  
 Source: Molecular Therapeutic Program, Karmanos Cancer Institute  
 Period: 03/01/2015 – 02/29/2016  
 Total: \$28,438.00

### Pending National/International Grants

R01 NIH/NCI (R01CA208588); Resubmitted for the 04/19/2016 cycle  
 Role: PI  
 Title: 'A Novel, Effective, *In Vivo* Treatment against Melanoma'  
 Period: 5 years; 12/01/2016-11/30/2021.  
 Total Award \$1,940,191 (Direct - \$1,458,194; Indirect – \$481,997)

Source: R21 NIH/NCI (ID not assigned yet); Submitted for the 02/16/2016 cycle  
 Role: PI  
 Title: 'Targeting a Highly Efficient *In Vivo* hrDNase1 Therapy to Melanoma'  
 Period: 2 years; 12/01/2016-11/30/2018.  
 Total Award \$438,200 (Direct - \$341,000; Indirect – \$97,200)

### Previously funded Grants

*(Sums were converted from Danish krone to dollar (2006))*

Apoptosis and Apoptosis-Free Lethal Effect of Quercetin and Ultraviolet-B in Human Melanoma; PI; IMK Almene Fond; Copenhagen, Denmark; 2005-2006; Total: \$105,754.

Apoptosis and Apoptosis-Free Lethal Effect of Quercetin and Ultraviolet-B in Human Melanoma; PI; Jens og Maren Thestrups Fond for Cancer Research, Copenhagen, Denmark; 2004; Total: \$8,462.

Apoptosis Induction in melanoma cell lines by retroviral gene transfer technology; PI; Aage Bangs Fond, Aarhus, Denmark; 2003; Total: \$45,446 (total of four separate awards in 2003).

Grant for laboratory device; PI; Marleren Hjalmar Westerdahls Forskiningslegat, Copenhagen, Denmark; 2003; Total: \$769.

Grant for laboratory device; PI (Co-I: Jan Nehlin, Peter Horne); The Danish Medical Association Research Fund/Hojmosegaard-legatet, Copenhagen, Denmark; 2002; \$3,738.

siRNA and Gene Therapy Induced Apoptosis in melanoma; PI; IMK

Almene Fond, Copenhagen, Denmark; 2001-2004; Total: \$249,231.

Microsatellite Instability and Hypermutation of Immunoglobulin Variable Genes in Werner Syndrome; PI; Danish Center for Molecular Gerontology (DCMG), Aarhus, Denmark; 2001; Total: \$44,398.

The impact of age on the counterattack of tumor-infiltrating lymphocytes by cutaneous melanoma through the Fas-FasL apoptotic pathway; PI; Marleren Hjalmar Westerdahls Forskiningslegat, Copenhagen, Denmark; 2000; \$769.

The impact of age on the counterattack of tumor-infiltrating lymphocytes by cutaneous melanoma through the Fas-FasL apoptotic pathway; PI; Aage Bangs Fond, Copenhagen, Denmark; 2000; Total: \$15,470.

The impact of age on the counterattack of tumor-infiltrating lymphocytes by cutaneous melanoma through the Fas-FasL apoptotic pathway; PI; Jens og Maren Thestrups Fond for Cancer Research, Copenhagen, Denmark; 1999; Total: \$10,000.

Grant for laboratory device; PI; Director Ib Henriksens Fond, Copenhagen, Denmark; 1999; Total: \$7,692.

Intrinsic and Extrinsic Ageing Processes of the Skin; PI (Co-I: Henrik K Thomson, GL Skovgaard); Minister Erna Hamilton's Fond for Science and Art, Copenhagen, Denmark; 1999; Total: \$15,385.

The Impact of Aging on Hypermutation in Immunoglobulin genes; Establishing the Copenhagen Laboratory of Molecular Dermatology; PI; Danish Center for Molecular Gerontology (DCMG), Aarhus, Denmark; 1996-2000; Total: \$481,250.

### **Previously submitted, not funded Grants**

hrDNase1 Killing Efficiency in Various Cancer Types; NIH (R03); PI; 2013; Direct Costs - \$100,000.

The role of canonical and noncanonical Wnt signals in melanoma initiation and progression; Multi-PI (Rosner, Shekhar); Strategic Research Initiative Grant –Karmanos Cancer Institute; 2013; Direct Costs - \$50,000.

hrDNase1 Killing Efficiency in Various Cancer Types; NIH (R03); PI; 2012; Direct Costs - \$100,000.

hrDNase1-Based Anti-Cancer Therapeutic Platform; American Cancer Society (ACS); 2012; Direct Costs - \$30,000; Scored: Outstanding.

Designing a Management Nuclease to Overcome Cancer Resistance to Apoptosis; NIH (R01); PI; 2011; Direct Costs - \$1,250,000 (\$1.25 million).

Designing a Management Nuclease to Overcome Cancer Resistance to Apoptosis; American Cancer Society (ACS); PI; 2011; Direct Costs - \$599,987.

Serum Biomarkers for Melanoma Detection; Cancer Research Institute (CRI); PI; 2011; Direct Costs - \$200,000.

Serum Biomarkers for Melanoma Detection; NIH (R21); PI; 2011; Direct Costs - \$150,000 [\$228,000 (Including -Indirect Costs)].

Selective Targeting of Treatment to Metastatic Melanoma; Melanoma Research Alliance (MRA); MI; 2010; Direct Costs - \$99,884.

Specific Targeting of a Waste Management Nuclease to Overcome Melanoma Resistance to Apoptosis; Department of Defense; PI; 2010; Direct Costs -\$75,000 [\$113,587 (Including -Indirect Costs)].

Engineering a Waste-Management Nuclease to Overcome Melanoma Resistance to Apoptosis; Damon Runyon Cancer Research Foundation; PI; 2010; Direct Costs - \$450,000.

Specific Targeting of a Anti-Cancer DNase1 Gene Constructs to Melanoma; A Therapy to Overcome Metastatic Melanoma Resistance; Harry J. Lloyd Charitable Trust; PI; 2010; Direct Costs - \$103,590.

Therapeutic Modality Having High Killing Efficiency and Specificity for the Treatment of Cancer; Sidney Kimmel Foundation For Cancer Research; PI; 2008; Direct Costs - \$200,000.

Melanoma Therapy by Targeted Gene-Constructs Having High Killing Efficiency; The Ralph Wilson Medical Research Foundation; PI; 2008; Direct Costs - \$100,000.

Melanoma Therapy by Targeted Gene-Constructs Having High Killing Efficiency; NIH (R21); PI; 2008; Direct Costs - \$275,000.

## CLINICAL TRIALS ACTIVITIES

1. Role: Co-PI 1992  
 Clinical study: '1% bifonazole/40% urea ointment versus 1% bifonazole cream and 5% salicylic acid ointment treatment' comparison for hyperkeratotic tinea pedis.'  
 Company: Bayer (Germany) and Pharma Clal Ltd. (Israel)  
 Site: HaEmeck Medical Center, Afula, Israel
2. Role: Sole PI - I designed and conducted the study to meet the U.S. Food and Drug Administration (FDA) Requirements. 1991  
 Clinical study: 'Double blinded determination of sun protective factors (SPF) and water-resistance level of multiple sunscreens'  
 Company: Agis Ltd. (Israel)  
 Site: HaEmeck Medical Center, Afula, Israel

## PATENTS

**Invention:** ‘Anti-cancer therapeutic strategy to overcome cancer resistance and to enable tailoring treatment to patients’

Sole Inventor: Karli Rosner, M.D., Ph.D.

Status: Awarded final U.S. patent No. US 9,238,682 on 01/19/2016.

**Invention Disclosure:** ‘Topical Administration of Human Recombinant Deoxyribonuclease-I (hrDNaseI) for the Treatment of Cutaneous Melanoma and Reducing Possible Dissemination of Melanoma Metastases.’

Sole Inventor: Karli Rosner, M.D., Ph.D.

Status: Disclosure in April 2015 to the WSU Division of Research, Technology Commercialization; under consideration for issuing my second patent at WSU.

The novel therapeutic approach is based on introducing genetic codes into cancer cells, which in turn translated the codes into human recombinant deoxyribonuclease1 (hrDNase1) protein that avoids being secreted from the cells, resists inactivation by actin, accesses nuclear DNA and initiates apoptosis through DNA damage. Using FDA approved rAAV delivery systems, this modality attained more than 75% regression in human melanoma xenografts after single administration. Recently, it also demonstrated 97-100% killing efficiency through apoptosis in multiple cell types originating from human primary and metastatic melanomas.

## PUBLICATIONS

(Total of 239 citations from Google Scholar, Web Science and Scopus (02/19/2016))

### Peer-Reviewed Publications

#### Reports of Original

#### Work

1. **Rosner K**, Kirou E, Mehregan DR, Abrams J, Kim S, Rosner T. Eradication of Multiple Primary and Metastatic Melanoma Types *In Vitro* by Human Recombinant DNase1. *J Expt Derm Clin Res* 1:004, **2014**. Cited: x 0.
2. **Rosner K**, Adsule S, Haynes B, Kirou E, Kato I, Mehregan DR, Shekhar MPV. Rad6 is a Potential Early Marker of Melanoma Development. Submitted, *Translational Oncology* **2014**, May 12. pii: S1936-5233(14)00044-8. [Epub ahead of print]. PMID: 24831578. IF:2.943. Cited: x 2.
3. **Rosner K**, Mehregan DR, Kirou E, Abrams J, Kim S, Campbell M, Frieder J, Lawrence K, Haynes B, Shekhar MPV. Melanoma Development and Progression are Associated with Rad6 Upregulation and  $\beta$ -catenin Relocation to the Cell Membrane. *J Skin Cancer* 439205, 2014, **2014**. PMID: 24891954. Cited: x 3.
4. **Rosner K**, Kasprzak MF, Horenstein ACJ, Thurston HL, Abrams J, Kerwin LY, Mehregan DA, Mehregan DR. Engineering a Waste Management Enzyme to Overcome Cancer Resistance to Apoptosis: Adding DNase1 to the Anti-Cancer Toolbox. *Cancer Gene Ther* 18: 346-57, 2011. PMID: 21233855. IF: 2.945. Cited: x 9.

5. **Rosner K**, Mehregan DR, Moussai D, Abrams J, Tromp G, Mehregan DA. WT1 marker is not sufficient for distinguishing between melanoma and melanocytic nevi. *J Cutan Pathol* 36:1077-82, 2009. PMID: 19615003. IF: 1.766. Cited: x 5.
6. **Rosner K**, Carsten Ropke, Vibeke Pless, Vejlsgaard GL. Late-type apoptosis and apoptosis-free lethal effect of quercetin in human melanoma. *Biosc Biotech Biochem* 70: 2169-77, 2006. PMID: 16960382. IF: 1.269. Cited: x 20.
7. Veien NK, **Rosner K**, Vejlsgaard GL. Is tea tree oil an important contact allergen? *Contact Dermatitis* 50: 378-9, 2004. PMID: 15274735. IF: 2.925. Cited: x 41.  
(I verified data analysis and contributed to final manuscript)
8. **Rosner K**, Winter DB, Kasmer C, Skovgaard GL, Tarone RE, Bohr VA, Gearhart PJ. Impact of Age on Hypermutation of Immunoglobulin Variable Genes in Humans. *J Clin Immunol* 25: 102-15, 2001. PMID: 11332649. IF: 3.382. Cited: x 25.
9. **Rosner K**, Winter DB, Tarone RE, Skovgaard GL, Bohr VA, Gearhart PJ. Third Complementarity-Determining Region of Mutated VH Immunoglobulin Genes Contains Shorter V, D, J, P, and N Components than Nonmutated Genes. *Immunology* 103: 179-87, 2001. PMID: 11412305. IF: 2.814. Cited: x 62.
10. **Rosner K**, Winter DB, Skovgaard GL, Oshima J, Bohr VA, Gearhart PJ. Analysis of Microsatellite Instability and Hypermutation of Immunoglobulin Variable Genes in Werner Syndrome. *Mech Age Dev* 122: 1121-33, 2001. PMID: 11389928. IF: 3.510. Cited: x 0.
11. **Rosner K**, Ross C, Karlsmark T, Vejlsgaard GL. The role of LFA-1/ICAM-1, CLA/E-selectin and VLA-4/VCAM-1 pathways in recruiting leukocytes to the different regions of the chronic leg ulcer. *Acta Dermatol Venerol Scand (Stoch.)* 81: 334-9, 2001. PMID: 11800139. IF: 3.487. Cited: x 12.
12. **Rosner K**, Ross C, Karlsmark T, Petersen AA, Vejlsgaard GL. Immunohistochemical characterization of the cutaneous cellular infiltrate in different areas of chronic leg ulcers. *APMIS (Acta Pathologica, Microbiologica et Immunologica Scandinavica)* 103: 293-9, 1995. PMID: 7612260. IF: 2.068. Cited: x 61.
13. Hassan Y, Huleihel M, Priel E, **Rosner K**, Aboud M. Effect of Moloney murine leukemia virus on the carcinogenicity of 3-methylcholanthrene in normal rat kidney cells. *Arch Virol* 90: 63-71, 1986. PMID: 3729725. IF: 2.03. Cited: x 2.

## Editorial

14. **Rosner K**. DNase1: A New Personalized Therapy for Cancer? *Expert Rev Anticancer Ther* 11: 981-4, 2011. PMID: 24831578. IF: 2.066. Cited: x 2.

## Published Abstracts

1. **Rosner K**, Kirou E, Kasprzak MF, Abrams J, Mehregan DR, Mehregan DA. A Novel Genetic-Based Therapeutic Platform for Eradicating Metastatic Cancer. *J Cancer Science & Therapy* 5: 145, 2013.
2. **Rosner K**, Kasprzak MF, Horenstein ACJ, Thurston HL, Abrams J, Kerwin LY, Mehregan DA, Mehregan DR. Engineering a waste-management nuclease to overcome melanoma resistance to apoptosis. *Pigment Cell Melanoma Res* 23: 709, 2010.

## PRESENTATIONS

### Podium Presentations (refereed)

1. Drug Discovery & Therapy World Congress (DDTWC) 2015, ‘A Highly Therapeutic Platform for Eradicating Metastatic Cancer,’ Boston, MA, **USA** 2015
2. 3rd World Congress on Cancer Science & Therapy, ‘A Novel Genetic-Based Therapeutic Platform for Eradicating Metastatic Cancer,’ San Francisco, CA, **USA** 2013
3. Drug Discovery & Therapy World Congress 2013, ‘A Novel Genetic-Based Therapy for Metastatic Melanoma,’ Boston, MA, **USA** 2013
4. The Semi-annual Meeting of the Danish Dermatology Society, Bispebjerg Hospital, ‘Late-type apoptosis and apoptosis-free lethal effect of quercetin in human melanoma,’ Bispebjerg, **Denmark** 2010
5. The Joint Meeting of the Danish Center for Molecular Gerontology, ‘Microsatellite instability and hypermutation in immunoglobulin genes in Werner’s syndrome,’ Middelfart, **Denmark** 1999
6. The Semi-Annual Meeting of the Danish Center for Molecular Gerontology, ‘DNA mutations in old and young humans,’ Aarhus, **Denmark** 1999
7. The 23th Annual Meeting of the Israel Society of Dermatology & Venereology, ‘Aspects of Gene Therapy,’ Bet Gabriel, **Israel** 1999
8. The Annual Meeting of the Israel Dermatology Society, ‘CD7 antigen deletion in patients with stage Ia Mycosis Fungoides,’ Zichron Ya’akov, **Israel** 1996
9. The Annual Meeting of the Israel Dermatology Society, ‘Acute Myelocytic Leukemia Simulating Cutaneous Leishmaniasis,’ Jerusalem, **Israel** 1995
10. The Annual Meeting of the Israel Dermatology Society, Immunohistochemical characterization of the cutaneous cellular infiltrate and adhesion molecules expression in the pathogenesis of chronic leg ulcers,’ Jerusalem, **Israel** 1994
11. 18th World Congress of Dermatology, ‘Leishmaniasis recidivans mimicking Acute cutaneous leishmaniasis,’ New York, NY, **USA** 1992
12. The Annual Meeting of the Israel Dermatology Society, First presentation – ‘Efficiency of 40% urea + bifonazole ointment versus 5% + bifonazole in tinea pedis;’ Second presentation - ‘Sporotrichoid Leishmaniasis,’ Tel-Aviv, **Israel** 1992
13. The Annual Meeting of the Israel Dermatology Society, First presentation – ‘Panniculitis (Rothman-Makai);’ Second presentation - ‘UVB Phototherapy for Uremic Pruritus,’ Ha’Maccabiah, **Israel** 1991



## Poster Presentations (refereed)

1. XVIth Annual Meeting of Pan American Society for Pigment Cell Research  
Vancouver Pigmentation and Melanoma Research Conference, 'The latest  
developments in the research and treatment of pigmentation conditions and  
melanoma,' Vancouver, BC, **Canada** 2010
2. The 5th Annual MichBio Expo & Conference, 'A Novel Therapeutic Platform  
to Overcome Cancer Drug Resistance,' Kalamazoo, MI, **USA** 2009
3. Progress in Molecular Aging, The Danish Center for Molecular Gerontology,  
'High frequency of somatic hypermutation and selection for mutated antibodies  
in old human indicate an intact humoral response,' Aarhus, **Denmark** 2004
4. The Faculty of Medicine, University of Copenhagen, 'High frequency of somatic  
hypermutation and selection for mutated antibodies in old human indicate an  
intact humoral response,' Copenhagen, **Denmark** 2000
5. Keystone Symposia on B Lymphocyte Biology and Disease, 'Old humans have  
hypermutated antibodies with different patterns of mutations compared to young  
humans,' Taos, NM, **USA** 1999
6. The 5th IUBMB Conference on the Biochemistry of Health and Diseases, 'Old  
humans have hypermutated antibodies with different patterns of mutations  
compared to young humans,' Jerusalem, **Israel** 1998
7. NIH Research Festival, 'Old humans have hypermutated antibodies with  
different patterns of mutations compared to young humans,' Bethesda, MD, **USA** 1998
8. The Annual Meeting of the Israel Dermatology Society, 'HIV and HTLV1 in  
Patients with Mycosis Fungoides, Jerusalem, **Israel**
9. 3rd European Academy of Dermatology and Venerology (EADV) Congress,  
'Efficiency of 40% urea + bifonazole ointment versus 5% + bifonazole in tinea  
pedis,' Copenhagen, **Denmark** 1993

## INVITED LECTURES

### International

1. University of Copenhagen, Bispebjerg Hospital, Basic Research Division,  
Department of Dermatology, Copenhagen, **Denmark**; '*In-vivo* eradication of  
melanoma by a novel individualized therapy that overcomes apoptosis resistance' 2016
2. University of Copenhagen, Bispebjerg Hospital, Department of Dermatology,  
Copenhagen, **Denmark**; 'Generation of an Anti-Cancer Platform: Melanoma  
as a First Model' 2011
3. Aarhus University, Department of Human Genetics, Aarhus, **Denmark**;  
'Waste-Management and Autonomous nucleases for Cancer Treatment' 2010

4. Department of Dermatology, Wayne State University, Detroit, MI, **USA**; 2006  
 First lecture - Resident Lecture: ‘The Menzies Method of Dermoscopy for the Diagnosis of Melanoma’; Second lecture – Resident Lecture: ‘Dermoscopy of Palmoplantar Pigmented Nevi and Melanoma’  
*(At the time, I was living and working in Denmark)*
  
5. Division of Dermatology, Department of Medicine, Ottawa Hospital, Ottawa, **Canada**; 2006  
 First lecture - ‘Malignant Melanoma: Etiology From a Very Different Angle’; Second lecture - ‘The Menzies Method of Dermoscopy for the Diagnosis of Melanoma’; Third lecture – ‘Dermoscopy of Palmoplantar Pigmented Nevi and Acrolentigenous Melanoma’
  
6. Department of Dermatology, Hautklinik, Heinrich-Heine-University of Düsseldorf, Düsseldorf, **Germany**; 2002  
 ‘Hypermuation, Impact on Immunoglobulin Genes and General Applications’
  
7. Institute for Dermatology and Venereology, University Hospital, Lund, **Sweden**; 2001  
 ‘Gene Technology and Gene Skin Therapy’
  
8. Department of Dermatology, Tel-Hashomer, Tel-Aviv, **Israel**; 2000  
 ‘Hypermuation in Immunoglobulin Genes, and Innovations in Skin Gene Therapy’  
*(At the time, I was living and working in Denmark)*
  
9. Department of Dermatology, Rabin Medical Center, Belinson Campus, Tel-Aviv, **Israel**; 2000  
 ‘Hypermuation in Young and Old Human Immunoglobulin Genes’  
*(At the time, I was living and working in Denmark)*
  
10. 2000  
 Internal Departments Meeting, Central Emek Hospital, Afula, **Israel**; ‘Gene Technology and Skin Gene Therapy’  
*(At the time, I was living and working in Denmark)*
  
11. The 23rd Annual Meeting of the Israel Society of Dermatology & Venereology, Bet Gabriel, **Israel**; 1999  
 ‘Aspects of Gene Therapy’  
*(At the time, I was living and working in Denmark)*

#### **International (cont.) Invited Grand Rounds**

12. Department of Dermatology, Wayne State University, Detroit, MI, **USA**; 2006  
**Grand Rounds** Lecture: ‘Malignant Melanoma: Etiology From a Very Different Angle.’  
*(At the time, I was living and working in Denmark)*

**National**

13. Department of Dermatology, University of Wisconsin, Madison, **WI, USA**; 2012  
 ‘Menzies Method for Diagnosis of Melanoma and Dermoscopy for Acral Lentiginous Melanoma’

**National (cont.) Invited Grand Rounds**

14. Carbone Comprehensive Cancer Center, University of Wisconsin, Madison, **WI, USA**; **Grand Rounds** Lecture: ‘Engineering a Personalized Therapy for Metastatic Melanoma: Adding hrDNase1 to the Anti-Cancer Arsenal.’ 2012

**Regional**

15. Translational Science & Molecular Medicine, Michigan State University College of Human Medicine, **Grand Rapids, MI, USA**; ‘Engineering a Waste-Management Nuclease to Overcome Cancer Drug Resistance’ 2014
16. The Annual Meeting of the Danish Dermatology Society, Odense, **Denmark**; ‘Gene Therapy and Dermatology’ 2000  
*(At the time, I was living and working in Denmark)*
17. Department of Dermatology, Belinson Medical Center, Tel-Aviv, **Israel**; 1994  
 ‘The Role of Adhesion Molecules in Trafficking Leukocytes’  
*(At the time, I was living and working in Afula, Israel)*
18. Immunology Course for Postgraduates in Dermatology, ‘Introduction to Immunology,’ Faculty of Medicine, Tel-Aviv University, Tel-Aviv, **Israel**; ‘Introduction to Immunology’ 1993  
*(At the time, I was living and working in Afula, Israel)*

**Local**

19. Research Retreat, Department of Dermatology, Henry Ford Hospital, Wayne State University, Detroit, **MI, USA**; ‘A Nonconventional Therapeutic Platform for Metastatic Melanoma’ 2013
20. Center for Molecular Medicine and Genetics, Wayne State University, Detroit, **MI, USA**; ‘A Novel Genetic-Based Anti-Cancer Therapeutic Platform’ 2013
21. Division of Infectious Diseases, Department of Internal Medicine, Harper Hospital, Wayne State University, Detroit, **MI, USA**; ‘Suicide Gene Therapy: Engineering Enzymes to Kill Cancer Cells’ 2012
22. Department of Biological Sciences, Wayne State University, Detroit, **MI, USA**; ‘Transforming the hrDNase1 Gene into a Personalized Therapy for Cancer: From Bedside to Benchtop and Back’ 2012

23. Protease and Cancer Program, Karmanos Cancer Institute, Detroit, MI, USA; 'Waste-Management Nuclease as a Therapeutic Modality for Metastatic Cancer' 2011
24. Department of Science History, Wayne State University, Detroit, MI, USA; 'Suicide Gene Therapy: Engineering Enzymes to Kill Cancer Cells' 2011
25. Karmanos Cancer Institute, Molecular Biology and Genetics, Detroit, MI, USA; 'Bypassing the Apoptotic Cascade to Overcome Cancer's Resistance to Treatment' 2010
26. Meeting of the Michigan Dermatology Society, Detroit, MI, USA; 'Melanoma Gene Therapy' 2008
27. Meeting of the Michigan Dermatology Society, Detroit, MI, USA; 'Melanoma Etiology, Diagnosis and Treatment Projects' 2006
28. Department of Gerontology, Bispebjerg Hospital, Copenhagen **Denmark**; 'The Impact of Aging on Immunoglobulin Encoding Genes' 2000  
*(At the time, I was living and working in Denmark, therefore)*