

## SONER DOGAN

Associate Professor  
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School of Medicine  
Department of Medical Biology  
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**Ph.D:** University of Minnesota



Title	Department/ Research Field	University	Year
<b>Assoc. Prof.</b>	Medical Biology	Yeditepe University	2015-present
<b>Asst. Prof.</b>	Medical Biology	Yeditepe University	2012 - 2015
<b>Visiting Scientist</b>	Obesity and Breast Cancer Prevention	Hormel Institute Medical Research Center, University of Minnesota	2012-
<b>Biology Faculty</b>	Natural Science	Riverland College, Minnesota	2008 - 2012
<b>Research Associate</b>	Molecular Research on Obesity and Breast Cancer Prevention	Hormel Institute Medical Research Center, University of Minnesota	2009 - 2012
<b>Postdoctoral Fellow</b>	The effects of calorie restriction on mammary tumor development	Hormel Institute Medical Research Center, University of Minnesota	2004 – 2009
<b>Ph.D.</b>	Medical Biology	University of Minnesota	2004
<b>Undergraduate</b>		Ankara University	1994

## Research Interest:

My recent research area is focused on breast cancer and obesity. My lab is trying to understand the molecular mechanisms of how calorie restriction prevents or delay mammary tumor development. Specifically, we are focused on different signaling pathways such as adipokines like leptin, adiponectin and cytokines, also IGF-I, mTOR, oxidative stress, miRNA and epigenetic modifications using transgenic mammary tumor mice models, cell culture and recent molecular biology techniques.

## Research Grants

- 2014-2017, TÜBİTAK 1001 Research Grant, INTERNATIONAL COST ACTION PROJECT (BM1402) (Primary Investigator): Determining the Roles of Epigenetic Modifications of Adipokine Genes and microRNAs in the Preventive Effects of Calorie Restriction in Mammary Tumor Development in MMTV-TGF- $\alpha$  Mice.
- 2014-2016, TÜBİTAK 3001 Research Grant (Primary Investigator): Study of the effects of calorie restriction on oxidative stress and mammary tumor development in MMTV-TGF- $\alpha$  transgenic mice.
- 2015-2016, TÜBİTAK 1002 Research Grant (Primary Investigator): Determining the Roles of Pro-Inflammatory Cytokines in Prevention of Mammary Tumor Development by Calorie Restriction in MMTV-TGF- $\alpha$  mice.
- 2014-2016, TÜBİTAK 3001 (Co-Investigator): Spindle assembly checkpoint in chromosomal abnormalities: Evaluation of Slx5 in *Saccharomyces cerevisiae* as a chemotherapy target

## Other Academic Activities

- **MC Member for the COST Action, BM1402:**  
Development of a European network for preclinical testing of interventions in mouse models of age and age-related diseases (MouseAGE).
- **MC Member for the COST Action, IS1402:**  
Ageism - a multi-national, interdisciplinary perspective
- **Associate Member for the COST Action, CM1406:**  
Epigenetic Chemical Biology (EPICHEM)
- 2013 – present TUBITAK (The Scientific and Technological Research Council of Turkey) Grant Review Panelist.
- 2012 - present Yeditepe University Research Animals Ethic Committee Member
- 2015 – present Coordinator for the first year medical students (Yeditepe University)
- 2012 – present Co-coordinator for 2<sup>nd</sup> year medical students (Yeditepe University)

## Publications

1. Sulev Kõks, Soner Dogan, Bilge Guvenc Tuna, Herminia González-Navarro, Paul Potter, Roosmarijn E. Vandenbroucke. "Mouse Model of Aging and Their Relevance to Aging". (Manuscript in Preperation). 2016
2. Amitabha Ray, Stephany C. Barreto , Este Armstrong and Soner Dogan, "Pathobiology of Cancer and Clinical Biochemistry", *Journal of Pediatric Biochemistry*. 3 (4): 187-201. 2013
3. Soner Dogan, Anna C. Johannsen, Joseph P. Grande and Margot P. Cleary. Effects of Intermittent and Chronic Calorie Restriction on Mammalian Target of Rapamycin (mTOR) and IGF-I Signaling Pathways in Mammary Fat Pad Tissues and Mammary Tumors. *Nutrition and Cancer*. Apr; 63(3): 389-401, 2011
4. Soner Dogan, Olga P. Rogozina, Anna E. Lokshin, Joseph P. Grande and Margot P. Cleary. Effects of Chronic vs Intermittent Calorie Restriction on Mammary Tumor Incidence and Serum Adiponectin and Leptin Levels in MMTV-TGF- $\alpha$  Mice at Different Ages. *Oncology Letters*. 1: 167-176, 2010
5. Michael E. Grossmann, Amitabha Ray, Katai J. Nkhata, Dmitry A. Malakhov, Olga P. Rogozina, Soner Dogan and Margot P. Cleary. Obesity and breast cancer: Status of leptin and adiponectin in pathological processes. *Cancer and Metastasis Reviews*. 29: 641-653, 2010.
6. Jessica N. Saykally, Soner Dogan, Margot P. Cleary, and Michel M. Sanders. The ZEB1 Transcription Factor Is a Novel Repressor of Adiposity. *PLoS ONE*. Dec 24;4(12):e8460. 2009
7. Margot P. Cleary, Amitabha Ray, Olga P. Rogozina, Soner Dogan and Michael E. Grossmann. Targeting the adiponectin:leptin ratio for postmenopausal breast cancer prevention. *Frontiers in Biosciences (Schol Ed)*. Jun 1;1:329-57, 2009
8. Katai J. Nkhata, Amitabha Ray, Soner Dogan, Joseph P. Grande, and Margot P. Cleary. Mammary tumor development from T47-D human breast cancer cells in obese ovariectomized mice with and without estradiol supplements. *Breast Cancer Research and Treatment*. 114: 71-83, 2009
9. Michael E. Grossmann, Amitabha Ray, Soner Dogan, Nancy K. Mizuno and Margot P. Cleary. Balance of Adiponectin and Leptin in Relationship to Breast Cancer Cell Growth. *Cell Res*. 18:1154-6, 2008
10. Soner Dogan, Xin Hu, Nita J. Maihle, Joseph P. Grande, and Margot P Cleary. Effects of High Fat Diet and/or Body Weight on Mammary Tumor Leptin and Apoptosis Signaling Pathways in MMTV-TGF- $\alpha$  Mice. *Breast Cancer and Research*. 9(6):R91, 2007
11. Margot P. Cleary, Xin Hu, Michael E. Grossmann, Subhash C. Juneja, Soner Dogan, Joseph P. Grande, and Nita J. Maihle. Prevention of Mammary Tumorigenesis by Intermittent Caloric Restriction, Does Caloric Intake During Refeeding Modulate the Response? *Experimental Biology and Medicine*. 232 (1):70-80, 2007

12. Soner Dogan, Deepak A. Deshpande, Thomas A. White, Timothy F. Walseth and Mathur S. Kannan. Regulation of CD38 Expression and Function by Steroid Hormones in Myometrium. *Mol. Cellular Endo. Volume 246 (Issues 1-2):101-106, 2006*
13. Deepak A. Deshpande, T.A. White, S. Dogan, T. F. Walseth, R. A. Panettieri and M. S. Kannan. CD38/cycling ADP-Ribose Signaling: Role in the Regulation of Calcium Homeostasis in Airway Smooth Muscle (Invited review paper). *Am J Physiol Lung Cell Mol Physiol. May; 288(5): L773-88, 2005*
14. Deepak A. Deshpande, S. Dogan, T. F. Walseth, S. M. Miller, Y. Amrani, R. A. Panettieri and M. S. Kannan. Modulation of Calcium Signaling by Interleukin-13 in Human Airway Smooth Muscle: Role of CD38/Cyclic Adenosine Diphosphate Ribose Pathway. *American Journal of Respiratory Cell and Molecular Biology. 31(1):36-42, 2004.*
15. Soner Dogan, D. A. Deshpande, M. S. Kannan, T. F. Walseth. Changes in CD38 Expression and ADP-Ribosyl Cyclase Activity in Rat Myometrium During Pregnancy: Influence of Sex Steroid Hormones. *Biology of Reproduction. 71 (1):97-103, 2004*
16. Soner Dogan, T. A. White, D. A. Deshpande, M. P. Murtaugh, T. F. Walseth, M. S. Kannan. Estrogen Increases CD38 Gene Expression and Leads to Differential Regulation of Adenosine Diphosphate (ADP)-Ribosyl Cyclase and Cyclic ADP-Ribose Hydrolase Activities in Rat Myometrium. *Biology of Reproduction. 66 (3): 596-602, 2002*
17. Hakan O. Muglali, A. Ergun, S. Dogan, I. Dibirdik, N. K. Nazaroglu, A. Guler, G. Oba. "Effects of Force-Feeding on Fatty Liver Production and Blood Parameters of Native and Romanov Geese". *Tr. J. of Veterinary and Animal Science. 21 (2): 107-113, 1997*

#### **Abstracts (*Proceedings*);**

1. Soner Dogan and Margot P. Cleary. Mammalian Target of Rapamycin (mTOR) Signaling Proteins are Highly Expressed in Mammary Tumors of MMTV-TGF- $\alpha$  Mice. American Association for Cancer Research (AACR) Annual Meeting, Chicago, IL, March 31st- April 4th, 2012. Poster #3267
2. Soner Dogan, Anna C. Johannsen, Joseph P. Grande, and Margot P. Cleary. Effects of Different Modes of Calorie Restriction on Mammalian Target of Rapamycin (mTOR) and IGF-I Signaling Pathways in Mammary Fat Pads and Mammary Tumors. Ninth Annual AACR International Conference on Frontiers in Cancer Prevention Research. Pennsylvania Convention Center, Philadelphia, PA, November 7-10, 2010. Poster # A94
3. Anna C. Johannsen, Soner Dogan and Margot P. Cleary. "Effects of Calorie Restriction on Serum Adiponectin and Leptin and Their Related Signaling Protein Expression in Mammary Tissue". 3rd Hormel Institute Symposium. Frontiers in Cancer Research. The Hormel Institute, University of Minnesota. October 4-7, 2008. Poster #38.
4. Margot P. Cleary, Michael E. Grossmann, Amitabha Ray, Katai J. Nkhata, Soner Dogan, Joseph P. Grande, and Nita J. Maihle. In Vivo and In Vitro Studies Relating Leptin and Obesity to Breast Cancer Development. Era of Hope. Department of Defense Breast Cancer Research Program Meeting. Baltimore Convention Center, Baltimore, MD. June 25-28, 2008. P12-13.

5. Amitabha Ray, Olga P. Rogozina, Melissa J. L. Bonorden, Soner Dogan, Joseph P. Grande and Margot P. Cleary. Prevention of Obesity Related Cancers: Promising Public Health Application from Laboratory Experience. Marching Toward Cancer Prevention Interactive Workshop. Mayo Clinic, Rochester, MN. March 27-29, 2008.
6. Soner Dogan and Margot P. Cleary. Roles of Adiponectin and Leptin Receptors in Mammary Tumor Development. Pathobiology of Cancer: The Edward A. Smuckler Memorial Workshop. Snowmass Village Resort, Snowmass Village, CO. July 15-22, 2007. Session B, Poster #6
7. Soner Dogan, Xin Hu, Nita J. Maihle, Joseph P. Grande, Margot P. Cleary. Effects of High Fat Diet and/or Body Weight on Apoptosis Signaling Molecules in Mammary Fat Pad and Mammary Tumor. Molecular Targets for Cancer, Keystone Symposia, Whistler Resort, Whistler, BC, Canada., March 18-23, 2007. Poster #153
8. Michael E. Grossmann, Amitabha Ray, Soner Dogan, Nancy K. Mizuno, Margot P. Cleary. 2007. Balance of Adiponectin and Leptin in Relationship to Breast Cancer Cell Growth and Signaling. An AACR Special Conference in Cancer Research. Advances in Breast Cancer research: Genetics, Biology, and Clinical Applications. San Diego, CA. October 17-20, 2007. Abstract #B50.
9. Katai J. Nkhata, Amitabha Ray, Soner Dogan, Joseph P. Grande and Margot P. Cleary. Gold Thioglucose (GTG)-Induced Obesity and T47-D Mammary Tumor (MT) Development in the Presence or Absence of Estrogen in a Xenograft Model. NAASO'S 2006 Annual Scientific Meeting (The Obesity Society). October 20-24, 2006. Boston, Massachusetts. Program Abstract Supplement Supplement to Obesity, Vol: 14. 2006. Abstract# 160-P.
10. Soner Dogan, Swetha S. Ramanan, Amitabha Ray, Katai J. Nkhata, and Margot P. Cleary. Changes in the Leptin Receptor Expression and Its Signaling in Breast Cancer; Role of the Calorie Restriction. Targeting Carcinogenesis (Hormel meeting). Rochester, MN. October 6-7, 2005. Poster # 4
11. Soner Dogan, Katai J. Nkhata, Swetha Ramanan, Amitabha Ray, and Margot P. Cleary. 2005. A Calorie Restriction in vitro Model to Determine the Leptin Receptor Expression in Human Breast Cancer Cells. An AACR Special Conference in Cancer Research. Advances in Breast Cancer research: Genetics, Biology, and Clinical Applications. La Jolla, CA. September 21-25, 2005. Abstract #A38
12. Soner Dogan, Deepak A. Deshpande, Chun-Ying Ku, Barbara M. Sanborn, Timothy F. Walseth, Mathur S. Kannan. Contractile Agonists Mediate Intracellular Calcium Responses Through CD38/cADPR Signaling in Myometrium. (Oral presentation in Society for the Study of Reproduction meeting in Canada). 2004. Abstract # 311
13. Soner Dogan D. A. Deshpande, M. S. Kannan, T. F. Walseth. Regulation of CD38 Expression and ADP-Ribosyle Cyclase Activity in Rat Myometrium During Pregnancy: Influence of Sex Steroid Hormones. FASEB Meeting in Washington D.C. 2004.
14. Deepak A. Deshpande, B. Kang, S. Dogan, T. F. Walseth, R. A. Panettieri, M. S. Kannan. Tumor Necrosis Factor- $\alpha$ - Induced Changes in the CD38 Expression and Calcium Homeostasis in Airway Smooth Muscle: Sensitivity to Dexamethasone. American Thoracic Society meeting in Orlando, FL. 2004.
15. Deepak A. Deshpande, S. Dogan, A. Guedes, M. P. Murtaugh, T. F. Walseth, M. S. Kannan. Cloning and Functional Characterization of cDNA Encoding Porcine CD38. FASEB Meeting in Washington D.C. 2004.

16. Deepak A. Deshpande, S. Dogan, M. S. Kannan, T. F. Walseth. Role of CD38/cADPR Signaling in Muscarinic Activation of Airway Smooth Muscle. FASEB Meeting in Washington D.C. 2004.
17. Soner Dogan, D. A. Deshpande, T. A. White, T. F. Walseth, M. S. Kannan. Regulation of CD38 Expression and Function in Uterine Smooth Muscle by Estrogen and Progesterone. (Presented as an Oral Presentation in Society for the Study of Reproduction. Baltimore, MD). Abstract#. 419, 2002.
18. Soner Dogan, T. A. White, D. A. Deshpande, T. F. Walseth, M. S. Kannan. Estradiol Stimulates Rat Myometrial ADP Ribosyl Cyclase Activity and CD38 Expression. (Madison, WI). The FASEB Journal, Vol: 15, No: 5, 2001. A1118.
19. Soner Dogan, Thomas A. White and Mathus S. Kannan. "Estradiol Stimulates ADP Ribosyl Cyclase in Rat Uterine Smooth Muscle". Biology of Reproduction. Vol 62 (Supplement 1). Orlando, FL. 2000.

### **Book Chapters**

White, T. A., Deshpande, D. A., Dogan, S., Panettieri, R. A., Walseth, T. F. and Kannan, M. S., Cyclic ADP-Ribose and NAADP Structures, Metabolism and Functions (Calcium Regulation in Smooth Muscle Through the CD38/Cyclic ADP-Ribose Pathway), Hon Cheung Lee (editor), pp. 427-450, Dordrecht: Kluwer, KLUWER ACADEMIC PUBLISHERS. ISBN 1-4020-7281-3, 2002

### **Awards**

- 2011 Grant award from the Chancellor's office of the Minnesota State Colleges and Universities (MnSCU)
- 2011 Recipient of Professional Development Grant for Higher Education Faculty given by Education Minnesota Foundation.
- 2010 Perkins Grant, in the amount of \$10, 000 as a start of setting up cell culture unit in the biotechnology lab.
- 2007 Scholarship from AACR (American Association for Cancer research) to attend the "Pathobiology of Cancer" educational workshop, The Edward A. Smuckler Memorial Workshop. Snowmass Village Resort, CO. July 15-22, 2007
- 2007 Ksenia Shambarger Scholarship from Keystone Symposia at the Molecular Targets for Cancer meeting. Whistler Resorts, Whistler, BC, Canada, March 18-23, 2007.
- 2006 Received an AICR (American International Cancer Research ) foundation scholarship to attend the conference in Washington DC, July 14-15, 2005.
- 2001-2004 Travel awards from University of Minnesota to present abstracts and/or give talks at scientific meetings

### List of the International Journals Reviewer for

- Journal of Gene Therapy
- Nutrition and Cancer, International Journal
- Cancer Letters
- Endocrine-related Cancer;
- Journal of Translational Medicine ;
- GENE
- Human and Experimental Toxicology
- Malaysian Journal of Medical Sciences
- Tumor Biology

### Professional Memberships

- Member of AACR (American Association for Cancer Research), 2006-present
- Member of Society for the Experimental Biology and Medicine 2003-2005
- Member of Departmental Graduate Study Committee, University of Minnesota, 2002
- Member of Society for the Study of Reproduction 1999-2005
- United State Soccer Federation, 1997- present

### Courses given passed two years.

Year	Term	Course Name	Hours per week		Number of Students
			Lecture	Lab	
2014 - 2015	Fall	Medical Biology and Genetics (School of Medicine)	3	2	85
		Medical Biology and Genetics (School of Dentistry)	3	2	47
		Molecular Biology and Genetics (School of Pharmacy)	3	-	80
2013 - 2014	Fall	Medical Biology and Genetics (School of Medicine)	3	2	85
		Medical Biology and Genetics (School of Dentistry)	3	2	55
		Molecular Biology and Genetics (School of Pharmacy)	3	-	72