

Amy Elizabeth Moran, Ph.D.
moranam@ohsu.edu

Lab Address

Oregon Health & Science University
Department of Cell, Developmental and Cancer Biology
3181 SW Sam Jackson Park Road, Mail code L215
Portland, OR 97239
Tel: 503-494-9711

Education

Ph.D. Microbiology, Immunology, Cancer Biology **2006-2011**

University of Minnesota, Minneapolis, MN

Bachelor of Science, Biology **1997-2001**

Gonzaga University, Spokane, Washington

Research Experience:

Assistant Professor **April 2017-present**

Department of Cell, Developmental and Cancer Biology, OHSU

Research topics: Understanding the immunologic underpinnings of prostate cancer and the generation of effective immunotherapies in hormone-resistant prostate cancer.

Post-Doctoral Research **2011- 2017**

Earle A. Chiles Research Institute, Providence Cancer Center, Portland, OR

Advisor: Andrew Weinberg, Ph.D.

Research topics: Understanding T cell receptor signal strengths within the tumor and how immunotherapy impacts these signals.

Doctoral Research **2006-2011**

Microbiology, Immunology, and Cancer Biology, University of Minnesota, Minneapolis, MN

Advisor: Kristin Hogquist, Ph.D.

Thesis project: Exploring the role of antigen receptor affinity in lymphocyte development

Research Associate **2004-2006**

Lombardi Cancer Center, Georgetown University, Washington D.C.

Advisor: Edward Gelmann, M.D.

Project: Elucidating a role for the tumor suppressor NKX3.1 in androgen receptor insensitive prostate cancer progression.

Research Assistant **2001-2004**

Department of Surgery, Dana Farber Cancer Institute, Boston, MA

Advisor: Monica Bertagnolli, M.D.

Project: Characterizing *APC* mutations in colorectal cancer patients and mice promotes tumorigenesis.

Undergraduate Murdock Research Scholar **1999-2001**

Department of Biology, Gonzaga University, Spokane, Wa

Advisor: Mia Bertagnolli, Ph.D.

Project/Duties: Support ongoing collaboration with Spokane Blood Bank to better understand Rh factor biology in blood donation.

Funding

American Cancer Society Postdoctoral Fellowship PF-14-053-01-LIB	2014- 2016
Young Investigator Award, Adaptive Biotechnologies	2015
NIH T32 AI078903 Postdoctoral Training Grant	2011-2013
Doctoral Dissertation Fellowship	2010-2011
NIH T32 AI07313 Pre-doctoral Training Grant	2008-2010
3M Science and Technology Graduate Fellowship	2006-2010
Murdock Undergraduate Research Fellowship	1999-2001

Awards

The American Association for Immunologist Public Policy Fellowship	2011-2012
Minnesota Medical Foundation Kaplan Award for Basic Research in Immunology	2011
MICaB Travel Award	2010
Outstanding Graduate Student Service & Achievement Award	2009
Minnesota Medical Foundation Jan Lunden Award	2009
Award for Outstanding Performance as a Teaching Assistant	2008

Leadership Positions

Society for Immunotherapy of Cancer: Advances in Cancer Immunotherapy Taskforce. Design curriculum for a NCI cancer immunotherapy course taught nationwide.	2014-Present
Research Mentor. Since 2009 I have directed the research activities of 3 rotation graduate students and 3 undergraduate students. University of Minnesota and EACRI.	2009-2015
Graduate Student Liaison. Served as the graduate student representative on the executive board of the Autumn Immunology Conference. Designed conference agenda, identified keynote speakers, and organized conference activities. Chicago, Illinois.	2009-2010

Teaching Experience:

Lecturer: SITC-Advances in Cancer Immunotherapy Workshop. Earle A Chiles Research Institute, Providence Cancer Center. Portland, OR. October 2014.
Visiting Lecturer Minneapolis Community and Technical College, Fall Semester 2009. Fall Semester 2010
Topic Expert: Graduate level immunology course University of Minnesota, Medical School, MICA 8012. Fall Semester 2009.
Lecture Teaching Assistant University of Minnesota, College of Biological Sciences, “Immunology” MICB 4131. Fall Semester 2008
Laboratory Teaching Assistant University of Minnesota, College of Biological Sciences, “Biology of Microorganisms” MICB 3301. Spring Semester 2008

Publications

Moran AE, Polesso F, Weinberg AD. (2016) Immunotherapy expands and maintains the function of high affinity tumor infiltrating CD8 T cells in situ. Journal of Immunology. Aug 8 epub. PMID: 27503208

Dillon TJ, Takahashi M, Li Y, Tavisala S, Murray SE, **Moran AE**, Parker DC, Stork PJ. (2013). B-Raf is required for positive selection and survival of DP cells, but not for negative selection of SP cells. International Immunology. April 25(4):259-69.

Moran AE, Kovacsovics-Bankowski M, Weinberg AD. (2013). The TNFRs OX40, 4-1BB, and CD40 as targets for cancer immunotherapy. Current Opinion in Immunology. April 25(2):230-7.

Casey KA, Fraser KA, Schenkel JM, **Moran AE**, Abt MC, Beura LK, Lucas PJ, Artis D, Wherry EJ, Hogquist K, Vezys V, Masopust D. (2012). Antigen-Independent Differentiation and Maintenance of Effector-like Resident Memory T cells in Tissues. Journal of Immunology. May 15; 188(10): 4866-75. PMID: 22504644

Moran AE, Hogquist KA. (2012). T cell receptor affinity in thymic development. Immunology. April; 135(4):261-7. PMID: 22182461

Moran AE, Holzapfel KL, Xing Y, Cunningham NR, Maltzman JS, Punt J, Hogquist KA. (2011). T cell receptor signal strength in Treg and iNKT cell development demonstrated by a novel fluorescent reporter mouse. Journal of Experimental Medicine. May 23, Epub. PMCID: 3173240

Hogquist KA & **Moran AE**. T_{reg} cells meet their limit. Nature Immunology. 2009 June 6 (10):565-6

Wirth, LJ, Krane, JF, Li Y, Othus, M, **Moran AE**, Dorfman DM, Norris CM, Goguen L, Posner MR, Haddad RI, Bertagnolli MM. A Pilot Surrogate Endpoint Biomarker Study of Celecoxib in Oral Premalignant Lesions. Cancer Prevention Research. 2008 Oct 1; (5):339-48

***Moran AE**, *Carothers AM, Cho NL, Redston M, Bertagnolli MM. *Changes in antitumor response in C57BL/6J-Min/+ mice during long-term administration of a selective cyclooxygenase-2 inhibitor*. Cancer Research. 2006 Sep 5; 114(10):1028-35 *equal contribution

Carothers AM, Javid SH, **Moran AE**, Hunt DH, Redston M, Bertagnolli MM. Deficient E-cadherin adhesion in C57BL/6J-Min/+ mice is associated with increased tyrosine kinase activity and RhoA-dependent actomyosin contractility. Experimental Cell Research 2006 Feb 15; 312(4):387-400.

Moran AE, Carothers AM, Weyant MJ, Redston M, Bertagnolli MM. Carnosol inhibits beta-catenin tyrosine phosphorylation and prevents adenoma formation in the C57BL/6J-Min/+ (Min/+) mouse. Cancer Research. 2005 Feb 1; 65(3):1097-104.

Javid SH, **Moran AE**, Carothers AM, Redston M, Bertagnolli MM. Modulation of tumor formation and intestinal cell migration by estrogens in the Apc(Min/+) mouse model of colorectal tumorigenesis. Carcinogenesis. 2005 Mar; 26(3):587-95.

Moran AE, Hunt DH, Javid SH, Redston M, Carothers AM, Bertagnolli MM. Apc deficiency is associated with increased Egfr activity in the intestinal enterocytes and adenomas of C57BL/6J-Min/+ mice. Journal of Biological Chemistry. 2004 Oct 8; 279(41):43261-72

Javid SA; **Moran AE**; Carothers AM, and Bertagnolli MM. Phytoestrogen-mediated suppression of Apc-associated intestinal tumorigenesis. Journal of Surgical Research, Oct. 2003

Manuscripts in Preparation

Moran AE, Polesso F, Weinberg AD. (2016) Combined targeting of OX40 and PDL1 promote tumor regression via enhanced T cell metabolic function and reprogrammed regulatory T cells. *Final preparation for Science Translational Medicine*.

Moran AE, Polesso F, Parker DC, Murray SE, Weinberg AD. Finding the right balance: α -OX40 enhances effector T cell anti-tumor function without disrupting regulatory T cell suppression. Data presented at SITC Annual Meeting November 2015.

Abstracts/Presentations

Moran AE, Polesso F, and Weinberg AD. (2016) Understanding T cell receptor signals in the tumor microenvironment. Invited Oral Presentation. American Cancer Society Jiler Professors and Fellows Conference. Salt Lake City, UT.

Moran AE, Polesso F, and Weinberg AD. (2016) Using TCR repertoire diversity in the preclinical and clinical space to understand mechanisms of action of OX40 immunotherapy. Invited Oral Presentation. Nature Conferences. Immune Profiling in Health and Disease. Seattle, WA.

Moran AE, Polesso F, and Weinberg AD. (2015) Immunotherapy maintains the function of high affinity tumor infiltrating CD8 T cells. Poster presentation. Nature Conferences. Immune Profiling in Health and Disease. Seattle, WA.

Moran AE, Polesso F, and Weinberg AD. (2015) Tumor immunotherapy expands polyclonal tumor antigen specific CD8 T cells with low and high affinity TCRs and a unique TCR repertoire. Poster presentation. Keystone Symposia: T cell development and function. Snowbird, UT.

Moran AE and Weinberg AD. (2014) Understanding the mechanism of action of agonist OX40 as a cancer therapy agent. Invited alumni lecture. Center for Immunology, University of Minnesota, Minneapolis, MN.

Moran AE, Polesso F, and Weinberg AD. (2014) OX40 agonist immunotherapy expands tumor reactive CD8 T cells and synergizes with PDL1 blockade to promote tumor regression. Oral presentation, plenary session. Society for the Immunotherapy of Cancer Annual Meeting. National Harbor, Md.

Moran AE and Weinberg AD. (2014) Tumor immunotherapy expands polyclonal tumor antigen specific CD8 T cells with low and high affinity TCRs and a unique TCR repertoire. Poster presentation. Keystone Symposia: Immune Evolution in Cancer. Whistler, Canada.

Moran AE and Weinberg AD. (2013) Identification and expansion of an edogenous polyclonal population of tumor antigen specific T cells. Poster presentation. AAI. Honolulu, Hawaii.

Moran AE and Weinberg AD. (2014) Tumor immunotherapy expands polyclonal tumor antigen specific CD8 T cells with low and high affinity TCRs and a unique TCR repertoire. Poster presentation. Keystone Symposia: Immune Evolution in Cancer. Whistler, Canada.

Moran AE, Holzapfel KM, Hogquist KA. (2010) The role of T cell receptor signal strength in regulatory T cell development. Poster presentation. ThymOz: An International Workshop on T Lymphocytes. Heron Island, Australia.

Moran AE, Hogquist KA. (2009) The role of T cell receptor signal strength in lymphocyte development. Autumn Immunology Conference. Oral and Poster Presentation. Chicago, IL

Moran AE, Hogquist KA. (2008) Identification of immunological tolerance genes using Sleeping Beauty transposon mutagenesis. Autumn Immunology Conference. Oral and Poster Presentation, Chicago, IL.

Moran AE, Mick V, Odumade O, Hogquist KA. (2007) A limited role for the TGF- β receptor Alk-1 in T cell development. Autumn Immunology Conference. Poster Presentation, Chicago, IL.

Moran AE; Carothers AM; Weyant MJ; Dannenberg AJ; and Bertagnolli MM. The rosemary constituent, Carnosol, inhibited tumor number in the C57BL/6J-Min/+ mouse and normalized β -catenin association with E-cadherin and tyrosine phosphorylation status. AACR Frontiers in Cancer Prevention Research, October 26-30, 2004. Poster Presentation.

Moran A; Hughes S; Hunt D; Carothers A, and Bertagnolli M. Cytoskeletal function in the min/+ mouse for colorectal cancer. AACR Annual Conference. July 11-14, 2003. Poster Presentation,

Moran A, Hunt D; Hughes S; Muller J; Bertagnolli M, and Carothers AM. Involvement of murine Apc in enterocytes membrane polarity. AACR Colon Cancer: Genetics to Prevention, March 7-10, 2002. Poster Presentation.