
BIOGRAPHICAL SKETCH

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NAME Elizabeth M. Jaffee		POSITION TITLE Professor of Oncology	
eRA COMMONS USER NAME Ejaffee1			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Brandeis University	B.A.	1981	Biochem & Immunology
New York Medical College	M.D.	1985	Medicine

A. Personal Statement

I have been developing cancer vaccines in pre-clinical models and translating our findings into patients for almost 20 years. I have trained and mentored more than 10 fellows who have since become faculty in a translational cancer research career. I have successfully sponsored most of the faculty for a K23 or K08 awards from the NIH, and/or CDA from ASCO as well as other career development awards.

In addition to mentoring individuals in translational cancer research, I currently serve on several external advisory committees as a translational research expert for program grants at the following institutions: Board of Scientific Counselors at the NCI, University of Pittsburgh Head and Neck Spore program External Advisory Board, External Advisory Board of the Jefferson Cancer Center, Oversight Advisory Committee for the NCI RAID program, member of the Translational Immunology Working Group of the NCI, External Advisory Board of the University of Maryland Head and Neck Spore (submitted), and External Advisory Board of the CTSA application recently submitted by Dartmouth Medical School. I am also a Deputy Director of the Johns Hopkins School of Medicine Institute for Translational and Clinical Research, in which I oversee many of the translational research programs and Cores. I am also the Associate Director for Translational Research at the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins. As Co-Director of the Molecular Oncology Resource I will use my experience in clinical translation to identify and facilitate the applications of discoveries and advances made in the JHU ICMIC for the treatment of cancer patients.

B. Positions and Honors.

Positions and Employment

1985-88 Medical Resident, Presbyterian-University, Pittsburgh, PA
1988-89 NIH Physician Investigator Research Fellow-University of Pittsburgh, Pittsburgh, PA
1989-91 Senior Clinical Oncology Fellow, Johns Hopkins Oncology Center, Baltimore, MD
1992-97 Assistant Professor of Oncology, Johns Hopkins University, Baltimore, MD
1997-02 Associate Professor of Oncology, Johns Hopkins University, Baltimore, MD
2002-present Professor of Oncology, Johns Hopkins University, Baltimore, MD
2010 Associate Director for Translational Research at Sidney Kimmel Cancer Center at JH

Other Experience and Professional Memberships

1992-present Member of Department of Oncology Fellowship Selection Committee
1999-present Member of the JHOC Education Committee
2001 Visiting Professor at the Ludwig Institute in Belgium
2001 Co-chair Lustgarten Found. for Pancreatic Cancer Research 3rd Scientific Conference
2002 Established and direct the Johns Hopkins Oncology Center Cell Processing and Gene Therapy cGMP Facility
2004-05 Chair, Clinical Research Committee, Sidney Kimmel Cancer Center at Johns Hopkins
2005-present Member NCI Board of Scientific Counselors
2006-present Member RAID NCI Program Oversight Committee
2006-present Deputy Director, Clinical and Translational Research Institute, Johns Hopkins School of Medicine
2006-present Co-Director, Immunology, Sidney Kimmel Cancer Center at Johns Hopkins

2007	Chair of Symposium on Cancer Vaccines, American Association for Cancer Research National Meeting
2007-present	Co-Director, Gastrointestinal and Cancers Program, SKCC at Johns Hopkins
2008-present	Board of Directors, International Society for Biological Therapy of Cancer
2007-present	Co-Director, Gastrointestinal and Cancers Program, SKCC at Johns Hopkins
2008-present	Board of Directors, International Society for Biological Therapy of Cancer
2008-present	AACR/ASCO Workshop on Methods in Clinical Research. Faculty and Symposium Chair. Vail, Colorado
2008-present	AACR Biostatistics Workshop. Faculty and Scientific Program Committee. Sonoma, CA

C. Selected Peer-reviewed Publications (Selected from over 133 publications)

Most relevant to the current application

- Huang AYC, Gulden PH, Woods AS, Thomas MC, Tong CD, Wang W, Engelhard VH, Pasternack G, Cotter R, Hunt D, Pardoll DM, Jaffee EM. The Immunodominant MHC Class I-Restricted Antigen of a Murine Colon Tumor Derives From an Endogenous Retroviral Gene Product. *PNAS* 1996; 93:9730-9735.
- Jaffee EM, Schutte M, Gossett J, Morsberger L, Adler AJ, Thomas M, Greten TF, Hruban RH, Yeo CJ, Griffin GA. Development and Characterization of a Cytokine Secreting Pancreatic Adenocarcinoma Vaccine from Primary Tumors for Use in Clinical Trials. *The Cancer Journal of Scientific American*, 1998;4(3):194-203.
- Machiels JP, Reilly RT, Emens L, Ercolini A, Okoye F, Jaffee EM. Cyclophosphamide, Doxorubicin, and Paclitaxel enhance the antigen-specific antitumor immune response of GM-CSF secreting whole cell vaccines in tolerized mice. *Cancer Research*, 2001; 61(9):3689-3697.
- Jaffee EM, Hruban RH, Biedrzycki B, Laheru D, Schepers K, Sauter PR, Goemann M, Coleman J, Grochow L, Donehower RC, Lillemoe KD, O'Reilly S, Abrams RA, Pardoll DM, Cameron JL, Yeo CJ. A novel allogeneic GM-CSF-secreting tumor vaccine for pancreatic cancer: A phase I trial of safety and immune activation. *Journal of Clinical Oncology*, 2001; 19(1):145-156.
- Jaffee EM, Hruban RH, Canto MI, Kern SE. Focus on pancreas cancer. *Cancer Cell*. 2002; 2(1):25-8.
- Thomas AM, Santarsiero LM, Lutz ER, Armstrong TD, Chen Y-C, Huang L-Q, Laheru DA, Goggins M, Hruban RH, Jaffee EM. Mesothelin Specific CD8+ T Cell Responses Provide Human Evidence of In Vivo Cross-Priming by Antigen Presenting Cells in Vaccinated Pancreatic Cancer Patients. *J Exp Med.*; 2004; 200(3):297-306.
- Ercolini AM, Ladle BH, Manning EA, Pfannenstiel LW, Armstrong TD, Machiels J-P, Bieler JG, Emens LA, Reilly RT, Jaffee EM. Recruitment of latent pools of high avidity CD8+ T cells to the antitumor immune response. *Journal of Experimental Medicine*, 2005; 201 (10):1591-1602.
- Laheru D, Jaffee EM. Pancreas Cancer Immunotherapy: Science Driving Clinical Progress. *Nature Reviews Cancer*, 2005; 5(6): 459-467.
- Laheru D, Lutz E, Burke J, Biedrzycki B, Solt S, Onners B, Tartakovsky I, Nemunaitis J, Le D, Sugar E, Hege K, and Jaffee E: Allogeneic granulocyte macrophage colony-stimulating factor—secreting tumor immunotherapy alone or in sequence with cyclophosphamide for metastatic pancreatic cancer: a pilot study of safety, feasibility, and immune activation. *Cancer Therapy: Clin Cancer Res* 2008 Mar 1;14(5):1455-1463. PMID2879140.
- Leao, IC; Ganesan, P; Armstrong, Todd; Jaffee, EM; Effective Depletion of Regulatory T Cells allows the Recruitments of Mesothelin-Specific CD8+ cells to the antitumor Immune Response Against a Mesothelin-expressing Mouse Pancreatic Adenocarcinoma. *Clinical and Translational Science*. Oct. 2008 Vol.1, Issue 3, 228-239. PMID2847413.
- Jones, S, Zhang X, Parsons DW, Lin JC, Leary RJ, Angenendt P, Mankoo P, Carter H, Kamiyama H, Jimeno A, Hong SM, Fu G, Lin M, Calhoun ES, Kamiyama M, Walter K, Nikolskaya T, Nikolsky Y, Hartigan J, Smith DR, Hidalgo M, Leach SD, Klein AP, Jaffee EM, Goggins M, Maitra A, Iacobuzio-Donahue C, Eshleman JR, Kern SE, Hruban RH, Karchin R, Papadopoulos N, Parmigiani G, Vogelstein B, Velculescu VE, Kinzler KW. Core signaling pathways in human pancreatic cancer revealed by global genomic analyses. *Science*. 2008 Sep 26; 321(5897):1801-6. PMID2848990.
- Jones S, Hruban RH, Kamiyama M, Borges M, Zhang X, Parsons DW, Lin JC, Palmisano E, Brune K, Jaffee EM, Iacobuzio-Donahue CA, Maitra A, Parmigiani G, Kern SE, Velculescu VE, Kinzler KW, Vogelstein B, Eshleman JR, Goggins M, and Klein AP. Exomic sequencing identifies PALB2 as a pancreatic cancer susceptibility gene. *Science* 2009; 324:217. PMID2684332.

13. Emens, LA, Asquith JM, Leatherman JM, Kobrin BJ, Petrik S, Laiko M, Levi J, Daphtary MM, Biedrzycki B, Wolff AC, Stearns V, Disis MD, Ye X, Piantadosi S, Fetting JH, Davidson NE, and Jaffee EM. Timed sequential treatment with cyclophosphamide, doxorubicin, and an allogeneic granulocyte-macrophage colony-stimulating factor-secreting breast tumor vaccine: a chemotherapy dose-ranging factorial study of safety and immune activation. *J Clin Oncol* 2009; 27:5911-8. PMID2793039.
14. Blackford, A., Serrano OK, Wolfgang CL, Parmigiani G, Jones S, Zhang X, Parsons DW, Lin JC, Leary RJ, Eshleman JR, Goggins M, Jaffee EM, Iacobuzio-Donahue CA, Maitra A, Cameron JL, Olin K, Schulick R, Winter J, Herman JM, Laheru D, Klein AP, Vogelstein B, Kinzler KW, Velculescu VE, and Hruban RH. 2009. SMAD4 gene mutations are associated with poor prognosis in pancreatic cancer. *Clin Cancer Res* 2009 15:4674-9. PMID2819274.
15. Lutz E, Yeo CJ, Lillemoe KD, Biedrzycki B, Kobrin B, Herman J, Sugar E, Piantadosi S, Cameron JL, Solt S, Onners B, Tartakovsky I, Choi M, Sharma R, Illei P, Hruban RH, Abrams RA, Le D, Jaffee EM, Laheru D. A Lethally Irradiated Allogeneic Granulocyte-Macrophage Colony Stimulating Factor-Secreting Tumor Vaccine in Pancreatic Adenocarcinoma: A Phase II Trial of Safety, Efficacy, and Immune Activation. 2010 *Annals of Surgery* in press.

D. Research Support

Ongoing Research Support

2P50CA103175-06A2 (Bhujwalla)

09/22/11 - 07/31/16

NCI JHU ICMIC Program

This center grant funds an in vivo Cellular and Molecular Imaging Center at Johns Hopkins. The program consists of four research components, four developmental projects, one career development award and four resources.

R01CA122081 (Jaffee)

03/15/08-12/31/12

NIH/NCI

Tolerance mechanisms regulating the complete HER-2/neu CD8+T Cell repertoire

The major goal of this grant is to utilize a new mouse model of high and low avidity T Cells to understand how avidity is regulated to a specific tumor antigen under conditions of immune tolerance.

R01CA122081 (Jaffee)

03/15/08 – 12/31/12

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V Foundation for Cancer Research (Emens)

04/01/10-03/31/14

Facilitating potent breast tumor immunity by antibody-enhanced vaccination

The major goal of this project is to conduct a randomized, open-label, comparative study of CY-modulated vaccination with an allogeneic GM-CSF-secreting breast tumor vaccine alone or with Trastuzumab for the treatment of metastatic breast cancer that does not over-express HER-2 (HER-2^{lo}).

Completed Projects Within Last Three Years

UL1RR025005 (Ford)

09/17/07- 05/31/12

TL1RR025007 (Ford)

09/17/07- 05/31/12

NIH/NCRR

Institute for Clinical and Translational Research

The major goal of this project is provide support for the development of an institute of translational and clinical research at Johns Hopkins. Dr. Jaffee serves as a Deputy Director for Translational Research Programs for this institute.

P50CA062924(Kern/Jaffee)

09/30/93-06/30/12

NIH/NCI

SPORE in Gastrointestinal Cancer

The major goal of this project is to identify new pancreatic tumor antigens and validate them as targets in clinical trials.

P30CA006973 (Nelson) 07/06/06 – 04/30/12
NIH/NCI
Regional Oncology Research Center
The major goal of this project is to provide Core funding for National Cancer Institute Designated Cancer Centers. Dr. Jaffee serves as a co-director of the immunology and gastrointestinal cancer programs on this grant

P30CA006973 (Nelson) 05/07/97-04/30/11
NIH/NCI
Regional Oncology Research Center
The major goal of this project is to provide Core funding for National Cancer Institute Designated Cancer Centers.

P50CA088843 (Sukumar/Jaffee) 09/30/00-09/29/11
NIH/NCI
SPORE in Breast Cancer
The major goal of this project is to evaluate agents that target mechanisms of T cell tolerance at the site of the tumor that can bypass tolerance and enhance the vaccine's efficacy.

R21CA126058 (Laheru/Jaffee) 07/03/08-06/30/11 NCE
NIH/NCI
Gene modified Vaccine in Combination with Ipilimumab for Advanced Pancreatic Cancer
The goal of this study is to combine pancreas cancer proteins as part of a vaccine with inhibitors of immune suppressive T regulatory cells to optimally activate the immune response.

W81XWH-07-1-0485 (Emens/Jaffee) 07/01/07-06/30/11
DOD CTRA
Overriding Systemic and Local Immunologic Checkpoints to Maximize Breast Cancer Immunotherapy
The goal of this project is to perform preclinical modeling to support the development and conduct of a P/hase II trial testing a human allogeneic GM-CSF-secreting breast tumor vaccine given with Cyclophosphamide modulation in the setting of weekly Trastuzumab therapy.

Pfizer (Jaffee) 09/01/09-08/31/11
Analysis of HER_2new and Survivin-specific T-cell responses after GM-CSF vaccination and inoculation with Co-inhibitory.
Pilot experiments of breast cancer vaccines in animals challenged with NT2.5 tumor cells.

311-2098 (Jaffee) 09/06/02-04/30/10
AVON
The Avon Baltimore/Seattle Breast Cancer Immunotherapy Collaborative
The goal of this project is to develop immune based therapies for the treatment and prevention of breast cancer.

U19CA113341 (Jaffee) 09/09/05-04/30/10
NIH/NCI
Combinatorial immunotherapies to amplify vaccine induced immunity
The main goal of this grant is to develop vaccine approaches that target mesothelin in pancreatic tumors.

W81XWH-04-1-0595 (Sukumar/Jaffee) 09/30/04-09/20/10
DOD/COE
Prevention and Therapy of Metastatic Breast Cancer
The main goal of this grant is to study the mechanism by which high avidity HER-2/neu specific T cells traffic and function at the site of metastases.