
BIOGRAPHICAL SKETCH

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

A. Positions and Honors

Chronology of Recent Employment:

1985-1988	Medical Resident, Presbyterian-University, Pittsburgh, PA
1988-1989	NIH Physician Investigator Research Fellow -University of Pittsburgh, Pittsburgh, PA
1989-1992	Senior Clinical Oncology Fellow, Johns Hopkins Oncology Center, Baltimore, MD
1992-1997	Assistant Professor of Oncology, Johns Hopkins University, Baltimore, MD
1997-present	Associate Professor of Oncology, Johns Hopkins University, Baltimore, MD

Honors and Awards:

1981	Brandeis University - Graduated Magna cum laude with highest honors in Biology/Immunology
1989	American Cancer Society Clinical Fellow - \$10,000
1992	Stetler Award
1992	American Cancer Society Research Award
1992	American Society of Clinical Oncology Young Investigator Award
1992	Physician - Scientist Award NIH
1992	Clinical Investigator Award, Johns Hopkins University School of Medicine

B. Selected Publications

Golumbek PT, Lazenby EJ, Levitsky HI, Jaffee EM, Karasuyama H, Baker M, Pardoll DM: Treatment of established renal cancer by tumor cells engineered to secrete interleukin-4. *Science* 1991; 254:713-715.

Dranoff G, Jaffee E, Lazenby A, Golumbek P, Levitsky H, Brose K, Jackson V, Hamada H, Pardoll D, Mulligan R: Vaccination with irradiated tumor cells engineered to secrete murine GM-CSF stimulates potent, specific, and long lasting anti-tumor immunity. *Proc. Natl. Acad. Sci. USA* 1993; 90 (8):3539-3543.

Jaffee EM, Dranoff G, Cohen L, Hauda K, Clift S, Marshall F, Mulligan RC, Pardoll DM: High efficiency gene transfer into primary human tumor explants without cell selection. *Cancer Res.* 1993; 53(10):2221-2226.

Golumbek PT, Azhari R, Jaffee EM, Levitsky HI, Lazenby A, Leong K, Pardoll DM: Controlled release, biodegradable cytokine deposits: A new approach in cancer vaccine design. *Cancer Res.*, 1993;53:5841-5844.

Sanda MG, Ayyagari SR, Jaffee EM, Epstein JI, Clift SL, Cohen LK, Dranoff G, Pardoll DM, Mulligan RC, Simons JW: Demonstration of a rational strategy for human prostate cancer gene therapy. *J Urol.* 1994;151:622-628.

Huang AYC, Golumbek P, Ahmadzadeh M, Jaffee EM, Pardoll DM, Levitsky H: Role of bone marrow-derived cells in presenting MHC class I-restricted tumor antigens. *Science* 1994;264:961-965.

Woods AS, Huang AYC, Cotter RJ, Pasternack GR, Pardoll DM, Jaffee EM: Simplified high-sensitivity sequencing of a major histocompatibility complex class-I associated immunoreactive peptide using matrix-assisted laser desorption/ionization mass spectrometry. *Anal Biochem* 1995;226:15-25.

Griffin CA, Hruban RH, Morsberger LA, Ellingham T, Long PP, Jaffee EM, Hauda KM, Bohlander SK, Yeo CJ: Consistent chromosome abnormalities in adenocarcinoma of the pancreas. *Cancer Res* 1995;55:2394-2399.

Jaffee EM, Lazenby A, Meurer J, Hauda KM, Counts C, Hurwitz H, Simons J, Marshall FF, Levitsky H, Pardoll DM: Use of murine models of cytokine-secretion tumor vaccines to study feasibility and toxicity issues critical to designing clinical trials. *J. Immunotherapy* 1995;18(1):1-9.

Jaffee EM, Thomas MC, Huang AYC, Hauda KM, Levitsky HI, Pardoll DM: Enhanced immune priming with spatial distribution of paracrine cytokine vaccines. *J. Immunother* 1996;19(3):52-60.

Wu TC, Huang AYC, Jaffee EM, Levitsky HI, Pardoll DM: A Reassessment of The Role of B7-1 Expression in Tumor Rejection. *J Exp Med* 1995;182:1-7.

Thompson RC, Pardoll DM, Jaffee EM, Ewend MG, Thomas M, Tyler B, Brem H: Systemic and local paracrine cytokine therapies using transduced tumor cells are synergistic in treating intracranial tumors. *J Immunotherapy*,1996;19(6):405-413.

Huang AYC, Gulden P, Woods, AS, Thomas MC, Pasternack G, Hunt D, Cotter R, Pardoll DM, Jaffee EM: An 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, Thomas M, Greten T, Yeo C, Hruban R, Griffin C, Morsberger L, Adler A. Development and characterization of a cytokine-secreting pancreatic adenocarcinoma vaccine from primary tumors for use in clinical trials. *Cancer Journal Scientific American* 1998;4(3);194-203,.

Simons JW, Jaffee EM, Weber C, Levitsky HI, Nelson WG, Carducci MA, Pardoll DM, Piantadosi S, Dranoff G, Mulligan RC, Marshall FC: Bioactivity of human GM-CSF gene transfer in autologous irradiated renal cell carcinoma vaccines. *Cancer Research* 1997;57:1537-1546,.

Rosenfeld ME, Vickers SM, Raben D, Wang M, Sampson L, Feng W, Jaffee EM, Curiel DT: Pancreatic carcinoma cell killing via adenoviral mediated delivery of the herpes simplex virus thymidine kinase gene. *Ann Surgery* 1997;225(5):609-18.

Jaffee EM, Pardoll DM: Considerations for the clinical development of cytokine gene-transduced tumor cell vaccines. *Methods* 1997;12(2):143-153.

Thomas MC, Greten T, Jaffee EM: Vaccination with allogeneic tumor cells induces specific antitumor immunity. *Human Gene Therapy* 1998;9:835-843.

Greten TF, Slansky JE, Kubota R, Soldan SS, Jaffee EM, Leist T, Jacobson S, Pardoll DM, Schneck JP: Direct visualization of antigen-specific T Lymphocytes from patients with HTLV-1 associated neurological disease using divalent HLA-A2/Ig complexes. *PNAS* 1998;95:1-6.

Ewend MG, Thompson RC, Jaffee EM, Anderson R, Stavely-O'Carroll K, Tyler BM, Babel K, Sills AK, Thomas M, Levitsky H, Pardoll D, Brem H: Intracranial paracrine interleukin-2 therapy stimulates prolonged antitumor immunity which extends outside the central nervous system. *J Immunotherapy*, 2000;23(4):438-448.

Raman V, Martensen SA, Reisman D, Evron E, Odenwald W, Jaffee E, Mark J. Sukumar S: Compromised HOXA5 function can limit p53 expression in human breast tumours.. *Nature* 2000;405:974-978.

Reilly RT, Gottlieb, MBC, Ercolini AM, Machiels J-P, Kane CE, Okoye FI, Muller WJ, Dixon KH, Jaffee, EM: HER-2/neu is a tumor rejection target in the HER-2/neu transgenic mouse model of breast cancer. *Cancer Research* 2000;60:3569-3576.

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;61:3689-3697.

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. *JCO* 2001;19(1):145-156.

Slansky JE, Rattis FM, Boyd LF, Fahmy T, Jaffee EM, Schneck JP, Margulies DH, Pardoll DM. Enhanced antigen-specific antitumor immunity with altered peptide ligands that stabilize the MHC-peptide-TCR complex. *Immunity*, 2000;13:529-538.

Reilly RT, Machiels JP, Emens LA, Ercolini AM, Okoye FI, Lei RY, Weintraub D, Jaffee EM. The collaboration of both humoral and cellular HER-2/neu-targeted immune responses is required for the complete eradication of HER-2/neu –expressing tumors. *Cancer Research* 2001;61:880-883.

Argani P, Rosty C, Reiter R, Wilentz RE, Murugesan SR, Leach SD, Byu B, Skinner HG, Goggins M, Jaffee EM, Yeo CJ, Cameron JL, Kern SE, Hruban RH. Discovery of new markers of cancer through serial analysis of gene expression (SAGE): Prostate stem cell antigen (PSCA) is overexpressed in pancreatic adenocarcinoma. *Cancer Research* 2001;61(11):4320-4324.

Zhou X, Cui Y, Huang X, Yu Z, Pardoll DM, Jaffee EM, Cheng L: High level and sustained transgene expression in human T lymphocytes post lentiviral-mediated gene transduction of unstimulated primary lymphocytes is independent of lentiviral accessory proteins. Submitted, 8/2001.

Argani P, Iacobuzio-Donahue C, Ryu B, Rosty C, Goggins M, Wilentz RE, Murugesan SR, Leach SD, Jaffee E, Yeo CJ, Cameron JL, Kern SE, Hruban RH. Mesothelin is Overexpressed in the Vast Majority of Ductal Adenocarcinomas of the Pancreas: Identification of a New Pancreatic Cancer Marker by Serial Analysis of Gene Expression (SAGE). *Clinical Cancer Research* 7:3862-3868, 2001.

Mautner J, Deckhut A, Jaffee EM, Pardoll DM. Tumor-specific CD4+ T cells from a patient with renal cell carcinoma recognize diverse shared antigens. Submitted, 2001.

Thomas AM, Santarsiero LM, Armstrong TD, Chen Y-C, Huang L-Q, Laheru, DA, Goggins, M, Hruban RH, Jaffee EM. A Functional Genomic Approach Identifies Mesothelin As An Immune Target In Human Pancreatic Cancer. Submitted.

Ercolini AM, Machiels J-P, Chen Y-C, Slansky J, Giedlen M, Reilly TR, Jaffee EM. Identification and Characterization of the Immunodominant Rat HER-2/neu MHC-1 Epitope Presented By Spontaneous Mammary Tumors From HER-2/neu Transgenic Mice. Submitted.

Couch M, Saunders JK, O'Mally BW, Pardoll, DM, Jaffee EM. Genetically Engineered Tumor Cell Vaccine in A Head and Neck Model. Submitted.

Emens LA, Biedrzycki B, Davidson N, Davis-Sproul J, Fetting J, Masayeva S, Onners B, Piantadosi S, Reilly RT, Wolff A, and Jaffee EM. A phase I Vaccine Safety and Chemotherapy Dose-Finding Trial of an Allogeneic GM-CSF-secreting Breast Cancer Vaccine Given in a Specifically Timed Sequence with Immunomodulatory Doses of Cyclophosphamide and Doxorubicin. *Human Gene Therapy*, (clinical protocol) in press, 2002.

Principal Investigator/Program Director (*Last, first, middle*): _____

Ongoing Support

1R01CA79685-01A1 (Jaffee)

12/01/00 – 11/31/04

NIH/NCI

Identification of CD8+ T cell targets on renal cancer

The major goal of this project is to identify renal tumor antigens using lymphocytes from patients treated with a renal tumor vaccine to screen tumor cDNA libraries. In addition, antigens will be analyzed for their prevalence as antigenic targets recognized by other patients with renal cancer. There is no overlap with any other project.

1R01CA88058-01 (Jaffee)

07/01/00 - 06/30/04

NIH/NCI

A phase II clinical trial testing the efficacy of a GM-CSF secreting allogeneic pancreatic tumor vaccine for the treatment of pancreatic adenocarcinoma.

The major goal of this project is to conduct and analyze a phase II study of an allogeneic pancreatic tumor vaccine to assess disease-free and overall survival benefits in patients with stage 1, 2, and 3 pancreatic adenocarcinoma. There is no overlap with any other project.

2U19CA72108 (Jaffee)
NIH/NCI NCDDG

09/01/00 - 04/30/04

Antigen-specific vaccines for breast cancer

The major goal of this project is to develop new vaccines approaches for overcoming immune tolerance in the HER-2/neu transgenic mouse model of breast cancer. Specifically, the interaction of chemotherapy with immune therapy is being studied. There is no overlap with the

SPORE in Breast Cancer project.
1P50CA88843-01(Davidson/Jaffee)

09/30/00 – 09/29/05

SPORE in Breast Cancer

Vaccines: A New Paradigm for Breast Cancer Prevention

The major goal of this project is to identify immune activating and downregulatory signals that can be targeted together with antigen specific tumor vaccines to overcome T cell tolerance in the HER-2/neu transgenic mouse model of mammary cancer. There is no overlap with the NCDDG project.

Jaffee

10/1/99 – 3/31/03

Lustgarten Foundation

A phase II study of an allogeneic GM-CSF secreting pancreatic tumor vaccine for the treatment of patients with metastatic pancreatic cancer.

The goal of this project is to test the integration of vaccine with immune modulating doses of chemotherapy for the treatment of patients with metastatic pancreatic cancer. There is no overlap with any other project.

Jaffee

10/01/01 – 09/30/03

Cell Genesys

A safety and efficacy trial of lethally irradiated allogeneic pancreatic tumor cells transfected with the GM-CSF gene in combination with adjuvant chemoradiotherapy for the treatment of adenocarcinoma of the pancreas.

The major goal of this project is to provide supplementation for monitoring the clinical trial and for producing the DTH autologous tumor cell reagents.

There is no overlap.

Ongoing Support (Continued)

P50 CA62924 – Jaffee
NIH-RFA

10/01/93 – 6/30/02

SPORE in Gastrointestinal Cancer

The major goal of this project is to develop tumor vaccines for the treatment of pancreatic and colorectal carcinomas. There is no overlap with any other project.

CA93714 – Jaffee

1/01/02 – 11/30/06

NIH

Chemotherapy plus vaccine for metastatic breast cancer

The goal of this project is to conduct a phase I trial testing CY and Dox given in optimal sequence with a human GM-CSF secreting vaccine in patients with metastatic breast cancer.

There is no overlap with any other project.

Jaffee

06/01/00 – 05/31/03

Cell Genesys, Inc.

Development of vaccine strategies potent enough to activate low affinity T cells

The goal of this project is to employ a panel of murine HER-2/neu specific T cell clones to analyze the mechanisms of T cell tolerance in HER-2/neu transgenic mice.

There is no overlap with any other project.

Jaffee

10/01/02 – 09/30/05

AVON

The Avon Baltimore/Seattle Breast Cancer Immunotherapy Colaborative

The goal of this project is to develop immune based therapies for the treatment and prevention of breast cancer.

There is no overlap with any other project.

Laheru

07/01/02 – 06/30/03

10%

Cell Genesys

\$275,698

A phase II trial of CG8020 and CG2505 in patients with nonresectable or metastatic pancreatic cancer.

The goal of this project is to test the Cell Genesys vaccine in patients with advanced pancreatic cancer.

There is no overlap with any other project.

PENDING

Emens

10/10/02 – 09/30/05

DOD Idea Award

Unveiling potentially novel mechanisms of antitumor synergy between targeted angiocidal and immune based therapies.

The goal of this project is to evaluate the integration of vaccine therapy with antiangiogenesis targeted therapies. Dr. Jaffee is serving as a senior advisor on this project.

There is no overlap with any other project.

