BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Martin G. Pomper	Professor of Radiology, Pharmacology & Molecular Sciences, Oncology, Radiation Oncology, Psychiatry and Environmental Health Sciences
eRA COMMONS USER NAME mpomper1	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Illinois at Urbana-Champaign	B.S.	1979-82	biochemistry
University of Illinois at Urbana-Champaign	Ph.D.	1982-89	chemistry (organic)
University of Illinois at Urbana-Champaign	M.D.	1982-90	medicine

A. Positions and Honors.

Positions and Employment

1990—1991 Intern in Medicine, Johns Hopkins Hospital, Baltimore, MD (Osler Service)
1991—1995 Resident in Radiology, Johns Hopkins Hospital, Baltimore, MD
1994—1995 Resident in Nuclear Medicine, Johns Hopkins Hospital, Baltimore, MD
1994—1996 Fellow in Neuroradiology, Johns Hopkins Hospital, Baltimore, MD
1996—2002 Assistant Professor, Department of Radiology, Johns Hopkins University, Baltimore, MD
2002—2007 Associate Professor, Department of Radiology, (2003) Pharmacology & Molecular Sciences, Oncology, Johns Hopkins University, Baltimore, MD; (2006) Department of Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
2007—present Professor, Department of Radiology, Pharmacology & Molecular Sciences, Oncology, and Environmental Health Sciences; (2008) Department of Psychiatry, Johns Hopkins University, Baltimore, MD

Other Experiences and Professional Memberships

2000—present Associate Director, Johns Hopkins *In Vivo* Cellular and Molecular Imaging Center (ICMIC)
2001—present Director, Johns Hopkins Small Animal Imaging Resource Program (SAIRP)
2001—present Ad Hoc Reviewer, National Institutes of Health
2005—2006 Treasurer, Society for Molecular Imaging
2005—present Steering Committee, Johns Hopkins Institute for Nanobiotechnology
2006—present President, Society of Nuclear Medicine's Molecular Imaging Center of Excellence
2007—present Board of Scientific Counselors, NIH Clinical Center
2007—present Editor-in-Chief, Molecular Imaging
2009—present Member, Clinical Molecular Imaging and Probes Study Section (NIH)

Honors

1982-1990 Medical Scholars Program, University of Illinois at Urbana-Champaign
1988 Berson-Yalow Award, Society of Nuclear Medicine (co-author)
1988 R.C. Fuson Award for Excellence in Organic Chemistry, University of Illinois
1995 William Gatewood Award (Department of Radiology, Johns Hopkins Hospital)
1996-1998 Radiological Society of North America, Scholar's Award
1997-1999 NARSAD Young Investigator Award – Marcia Simon Investigator
2007 Berson-Yalow Award, Society of Nuclear Medicine (co-author)
2008 Distinguished Service Award, Society of Nuclear Medicine

Specialty Certifications and Licenses

1995 American Board of Radiology, Diagnostic Radiology
1995, 2005 American Board of Nuclear Medicine
Medical Licenses: Maryland, New York, Delaware

B. Selected Peer-reviewed Publications (in chronological order – from appx. 100 and 15 patents/applications).

Pomper MG, Katzenellenbogen JA, Welch MJ, Brodack JW, Mathias CJ. 21-[^{18}F]Fluoro-16□-ethyl-19-norprogesterone: synthesis and target tissue selective uptake of a progestin receptor based radiotracer for positron emission tomography. J Med Chem 1988; 31:1360-1363.

Pomper MG, Pinney KG, Carlson KE, VanBrocklin HF, Mathias CJ, Welch MJ, Katzenellenbogen JA. Target tissue uptake selectivity of three fluorine-substituted progestins: potential imaging agents for receptor-positive breast tumors. Nucl Med Biol 1990; 17:309-319.

Pomper MG, VanBrocklin HF, Thieme AM, Thomas RD, Kiesewetter DO, Carlson KE, Mathias CJ, Welch MJ, Katzenellenbogen JA. 11□-Methoxy-, 11□-ethyl-, and 17□-ethynyl-substituted 16-fluoroestradiols: receptor based imaging agents with enhanced uptake efficiency and selectivity. J Med Chem 1990; 33:3143-3155.

Pomper MG, Kochanny MJ, Thieme AM, Carlson KE, VanBrocklin HF, Mathias CJ, Welch MJ, Katzenellenbogen JA. Fluorine-substituted corticosteroids: synthesis and evaluation as potential receptor-based imaging agents for positron emission tomography of the brain. Nucl Med Biol 1992; 19:461-480.

Pomper MG, Miller TJ, Stone JH, Tidmore WC, Hellmann DB. Central nervous system vasculitis (CNSV): MR imaging and correlation with angiography. AJNR Am J Neuroradiol 1999; 20:75-85.

Pomper MG, Musachio JL, Scheffel U, Macdonald JE, McCarthy DJ, Reif DW, Villemagne V, Yokoi F, Dannals RF, Wong DF. Radiolabeled neuronal nitric oxide synthase inhibitors: synthesis, in vivo evaluation and primate PET studies. J Nucl Med 2000; 41:1417-1425.

Pomper MG, Passe TJ, Burger PC, Brat DJ. Chordoid glioma: a unique neoplasm of the hypothalamus/anterior third ventricle. AJNR Am J Neuroradiology 2001; 22:464-469.

Mori S, Frederiksen K, Stieltjes B, Kraut MA, van Zijl PCM, Brem H, Pomper MG. Abnormally increased water diffusion anisotropy at the brain tumor-parenchyma interface. Ann Neurol 2002; 51:377-80.

Pomper MG, Constantinides CD, Barker PB, Bizzi A, Dogan SA, Yokoi F, McArthur JC, Wong DF. Quantitative MR spectroscopic imaging of brain lesions in patients with AIDS: correlation with [11C-methyl] thymidine PET and thallium-201 SPECT. Acad Radiol 2002; 9:398-409.

Pomper MG, Musachio JL, Zhang J, Zhou Y, Scheffel U, Hilton J, Maini A, Dannals RF, Wong DF, Kozikowski AP. 11C-MCG: Synthesis, uptake selectivity and primate PET of a probe for glutamate carboxypeptidase II (NAALADase.) Mol Imaging 2002; 1:96-101.

Bettegowda C, Dang LH, Abrams R, Huso DL, Dillehay L, Cheong I, Agrawal N, Borzillary S, McCaffery JM, Watson EL, Lin K-S, Bunz F, Baidoo K, Pomper MG, Kinzler KW, Vogelstein B, Zhou S. Overcoming the hypoxic barrier to radiation therapy with anaerobic bacteria. Proc Natl Acad Sci USA 2004; 100:15083-8.

Agrawal N, Bettegowda C, Cheong I, Geschwind J-F, Drake CG, Hipkiss EL, Tatsumi M, Dang LH, Diaz L, Pomper M, Abusedera M, Wahl RL, Kinzler KW, Zhou S, Huso DL, Vogelstein B. Bacteriolytic therapy can generate a potent immune response against experimental tumors. Proc Natl Acad Sci USA 2004, 101:15172-15177.

Bettegowda C, Foss CA, Wang Y, Fox J, Zhou S, Kinzler K, Vogelstein B, Pomper MG. Imaging bacterial infection in live animals with radiolabeled FIAU [featured on cover]. Proc Natl Acad Sci USA, 2005; 102:1145-51150.

Pomper MG, Phillips E, Fan H, McCarthy DJ, Keith RA, Gordon JC, Dannals RF, Musachio JL. Synthesis and biodistribution of radiolabeled □7 nicotinic acetylcholine receptor ligands. J Nucl Med, 2005; 46:326-334.

Foss CA, Mease RC, Fan H, Wang Y, Ravert HT, Dannals RF, Olszewski RT, Heston WD, Kozikowski AP, Pomper MG. Radiolabeled small molecule ligands for prostate-specific membrane antigen: in vivo imaging in experimental models of prostate cancer [featured on cover]. Clin Cancer Res 2005; 11:4022-4028.

Guilarte TR, McGlothan JL, Foss CA, Zhou Z, Heston WD, Kozikowski AP, Pomper MG. Glutamate Carboxypeptidase II Levels in Rodent Brain using [125I]DCIT Quantitative Autoradiography. Neurosci Lett, 2005; 387:141-144.

Hammoud DA, Endres CA, Chander AR, Guilarte TR, Wong DF, Sacktor NC, McArthur JC, Pomper MG. Imaging glial cell activation with [11C]-R-PK11195 in patients with AIDS. J Neurovirol, 2005; 11:346-355.

Mathews WB, Foss CA, Stoermer D, Ravert HT, Dannals RF, Henke BR, Pomper MG. Synthesis and biodistribution of [11C]GW7845, a positron-emitting agonist for PPAR□. J Nucl Med, 2005; 46:1719-1726.

Zhou J, Neale JH, Pomper MG, Kozikowski AP. NAAG Peptidase inhibitors and their potential for diagnosis and therapy. Nat Rev Drug Discovery, 2005; 4:1015-1026.

Holt DP, Ravert HT, Dannals RF, Pomper MG. Synthesis of [11C]gefitinib for imaging epidermal growth factor receptor tyrosine kinase with positron emission tomography. J Labelled Compd Radiopharm 2006; 49:883-888.

Wang Y, Seidel J, Tsui BMW, Vaquero JJ, Pomper MG. Performance evaluation of the GE eXplore VISTA DR small animal PET scanner. J Nucl Med 2006; 47:1891-1900.

Fu D-X, Tanhehco YC, Chen J, Foss CA, Fox J, Lemas V, Chong J-M, Ambinder RF, Pomper MG. Tumor imaging by induction of integrated viral gene expression. Clin Cancer Res 2007; 13:1453-1458.

Lee JS, Orita H, Gabrielson K, Alvey S, Hagemann RL, Kuhujda FP, Gabrielson EW, Pomper MG. Pharmacodynamic assessment of the fatty acid synthase inhibitor C-75 in an experimental model of lung cancer with FDG-PET. Pharm Res 2007; 24:1202-7.

Zhang Y, Bressler JP, Neal J, Lal B, Bhang, H-EC, Laterra J, Pomper MG. ABCG2/BCRP Expression Modulates D-Luciferin-based Bioluminescence Imaging. Cancer Res 2007; 67:9389-9397.

Diaz LA, Foss CA, Thornton K, Nimmagadda S, Endres CJ, Uzuner O, Seyler TM, Ulrich SD, Conway J, Bettegowda C, Agrawal N, Cheong I, Zhang X, Ladenson PW, Vogelstein BN, Mont MA, Zhou S, Kinzler KW, Vogelstein B, Pomper MG. Imaging of musculoskeletal bacterial infections by [124I]FIAU-PET/CT. PLoS One 2007; 2:E1007.

Hammoud DA, Hoffmann JM, Pomper MG. Molecular neuroimaging: from conventional to emerging techniques. Radiology 2007; 245:21-42.

Mease RC, Dusich CL, Foss CA, Ravert HT, Dannals RF, Seidel J, Prideaux A, Fox JJ, Sgouros G, Kozikowski AP, Pomper MG. Synthesis and in vivo evaluation of N-[N-[(S)-1,3-dicarboxypropyl]carbamoyl]-4-[18F]fluorobenzyl-L-cysteine, [18F]DCFBC: a new imaging probe for prostate cancer. Clin Cancer Res 2008,14:3036-3043.

Fu D, Tanhehco Y, Chen J, Foss CA, Fox JJ, Chong J-M, Fukayama M, Sgouros G, Kowalski J, Pomper MG, Ambinder RF. Bortezomib-induced enzyme-targeted radiotherapy in herpesvirus-associated tumors. Nat Med 2008,14:1118-1122.

Banerjee SR, Foss CA, Castanares M, Mease RC, Byun Y, Fox JJ, Hilton J, Lupold S, Kozikowski AP, Pomper MG. Synthesis and evaluation of technetium-99m- and rhenium-labeled inhibitors of the prostate-specific membrane antigen (PSMA). J Med Chem 2008, 51:4504-4517.

Guilarte T, Hammoud DA, McGlothan JL, Caffo BS, Foss CA, Kozikowski AP, Pomper MG. Dysregulation of glutamate carboxypeptidase II in psychiatric disease. Schizophr Res 2008; 99:324-332.

Chen Y, Foss CA, Byun Y, Nimmagadda S, Pullambhatla M, Fox JJ, Castanares SE, Babich JW, Mease RC, Pomper MG. Radiohalogenated PSMA-based ureas as imaging agents for prostate cancer. J Med Chem 2008; 51:7933-7943.

Zhang Y, Laterra J, Pomper MG. The hedgehog pathway inhibitor HhAntag691 is a potent inhibitor of ABCG2/BCRP and ABCB1/Pgp. Neoplasia, 2009; 11:96-101 [featured on cover].

Zhang Y, Byun Y, Ren YR, Liu JO, Laterra J, Pomper MG. Identification of Inhibitors of ABCG2 by A Bioluminescence Imaging-based High-throughput Assay. Cancer Res, 2009, 69:5867-75.

C. Relevant Research Support (as PI only)

Ongoing Research Support.

1RO1CA134675-01A1 (Pomper) 04/01/2009-02/28/2014
National Institutes of Health
PSMA-based Cancer Imaging Agents
The goal of this project is to develop cancer imaging agents based on inhibitors of prostate specific Membrane antigen

R21 CA131702-01A1 (Pomper) 04/01/2009-03/30/2011
National Institutes of Health

Alpha Methyl AcylCoA Racemase (AMACR)
The goal of this project is to develop imaging agents for alpha-methylacyl-coenzymeA racemase (AMACR) which will be used to detect intraprostatic lesions in patients with prostate cancer.

Dana Foundation (Pomper) 04/01/06-12/31/09
Imaging Inflammation in AIDS Dementia: PET with [^{11}C] Arachidonic Acid
The goal of this project is to see if [^{11}C]arachidonic acid can serve as a marker of brain inflammation, in correlation with dementia in patients with AIDS.
1R21 EB005324 (Pomper) 07/01/05-08/31/09.
National Institutes of Health
PSMA-based Gene Reporter-Probe System
The goal of this project is to develop a non-immunogenic molecular-genetic reporter system for cell trafficking and other applications.
2U24 CA92871 (Pomper) 03/09/07-02/29/12
National Cancer Institute
Small Animal Imaging Resource (SAIR)
The goal of is this project is to move small animal imaging science forward to a point where the incorporation of imaging techniques become second nature in the daily practice of cancer researchers.
1R21 MH080580 (Pomper) 09/11/07-08/31/12
National Institute of Mental Health
GCPII-Based Brain Imaging Agents
The goal of this project is to develop new imaging agents for GCPII in the brain.

Research Projects completed within the last 3 years

1R21 CA114111 (Pomper) 12/01/05-04/30/09.
National Institutes of Health
PSMA-based SPECT Tracers for Prostate Cancer Imaging
The goal of this project is to develop SPECT-based radiopharmaceuticals, based on our PSMA inhibitors.
1R21 CA111982 (Pomper) 04/07/06-03/31/09.
National Institutes of Health
PSMA-based PET Ligands for Prostate Cancer Imaging
The goal of this project is to develop PET-based radiopharmaceuticals, based on our PSMA inhibitors.
1R21 MH076591 (Pomper) 12/01/05-05/31/08.
National Institutes of Health
Imaging Serotonergic Transmission in HIV Depression
The goal of this study is to study the mechanism of AIDS depression through PET using the serotonin transporter ligand, [^{11}C]DASB.
Johns Hopkins Alliance for Science and Technology Development (Pomper) 01/01/06-12/31/07
Imaging Bacterial Infections with Radiolabeled FIAU
The goal of this project is to generate [^{124}I]FIAU according to GMP for human use in orthopedic and other infections.
PC050825 (Idea Development Award) (Pomper) 12/01/05-11/30/07.
Department of Defense:
PSMA-based PET Ligands for Prostate Cancer Imaging
The goal of this project is to develop PET-based radiopharmaceuticals, based on our PSMA inhibitors.
R24 CA92871 (Pomper) 12/01/01-02/28/07
National Institutes of Health:
Interdisciplinary Small Animal Imaging for Oncology
1R13 CA94269 (Pomper) 09/09/01-09/11/01.
National Institutes of Health
The goal of this project is to facilitate oncologic molecular imaging research through small animal imaging (SAIRP).
High Resolution Imaging in Small Animals
The goal of this project is to help finance the HiRes 2001 meeting in Washington, DC.