

## CURRICULUM VITAE

### **Mark R. Kelley, Ph.D.**

Betty and Earl Herr Chair in Pediatric Oncology Research and  
Professor, Departments of Biochemistry and Molecular Biology and  
Pharmacology and Toxicology  
Associate Director, Basic Science Research, IU Simon Cancer Center  
Director, Program in Molecular Oncology and Experimental Therapeutics  
Bantz-Petrino Translating Research into Practice Scholar  
Glenn W. Irwin, Jr., M.D. Research Scholar  
Associate Director, IU Pancreatic Cancer Signature Center  
Indiana University School of Medicine  
1044 W. Walnut, Cancer Research Institute, R4-Rm 302  
Indianapolis, Indiana 46202  
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Email: [mkelley@iu.edu](mailto:mkelley@iu.edu)

Chief Scientific Founder and Chief Scientific Officer  
Apexian Pharmaceuticals  
20 N. Meridian, Suite 801  
Indianapolis, IN 46204

### **PERSONAL INFORMATION**

Home address: 4557 Winterspring Crescent Marital Status: Married, 2 children  
Zionsville, IN 46077  
(317) 873-5778

Citizenship: United States

### **EDUCATION**

B.A. Zoology, 1975 - 1979  
DePauw University, Greencastle, IN

M.S. Zoology, 1979 – 1981  
Louisiana State University, Baton Rouge, LA  
Director: William R. Lee, Ph.D.

Ph.D. Genetics, 1981 - 1984  
Louisiana State University, Baton Rouge, LA  
Director: William R. Lee, Ph.D.

Postdoctorate, 1984 – 1987  
The Rockefeller University, New York, NY  
Director: Michael W. Young, Ph.D.  
2017 Nobel Prize Winner in Physiology or Medicine

### **HONORS**

Malpas Trust Scholarship 1975-1979

McClure Research Fellowship	1979
National Sigma XI Research Grant	1982-1983
American Cancer Society Postdoctoral Fellowship	1984-1987
Schweppe Career Development Award	1989-1992
Jonathan and Jennifer Simmons Professor of Pediatrics	2001-2008
Betty and Earl Herr Chair in Pediatric Oncology Research	2008 – Present
Innovation to Enterprise Commercialization Award, IUSM	2015
Bantz-Petronio Translating Research Into Practice Award	2017
Education Board Member, American Health Council	2017
Glenn W. Irwin, Jr., M.D. Research Scholar Award	2018

## **JOURNAL REVIEWER**

*Alcoholism: Clinical and Experimental Research, Cancer Research, Analytical Biochemistry, J. Cancer Res. and Clinical Oncology, Proc. Natl. Acad. Science, Radiation Research, Endocrine Journal, Endocrinology, Carcinogenesis, Environmental & Molecular Mutagenesis, J. of Cellular Biochemistry, Gene, Biochemistry, J. Clin. Endo. & Metabolism, BioTechniques, Blood, Oncogene, Clinical Cancer Research, Journal of Pharmacology and Experimental Therapeutics, Cancer Detection and Prevention, Nature Reviews Cancer, Current Cancer Drug Topics, Journal of Biomedicine and Biotechnology, Drug Profiles, Current Molecular Pharmacology, Gynecologic Oncology, Cancer Genetics, NeuroMolecular Medicine, Chemical Research in Toxicology, PLOSONe, DNA Repair, J of Cellular Physiology, J Pharmacology and Clinical Toxicology, Molecular Oncology, Molecular Oncogenesis, Oncotarget, Nature Scientific Reports*

## **EDITORIAL BOARDS:**

<i>Frontiers in Bioscience</i>	1995 - Present
<i>Journal of Pharmacology and Experimental Therapeutics</i>	1999 - Present
<i>Mutation Research: Molecular and Fundamental Mechanisms, Assoc. Editor</i>	2002 - Present
<i>Current Molecular Pharmacology</i>	2007 - Present
<i>World Journal of Clinical Oncology</i>	2010 – Present
<i>Journal of Molecular Oncology Research</i>	2016 – Present

## **CONSULTING & SCIENTIFIC BOARDS**

Novus Biologicals, Littleton, CO	1997 – present
Pangene, Fremont, CA	2003 – 2004
Semafore Pharmaceuticals, Inc.	2004 – 2006
Scientific Advisory Board, RetinoRX	2011 -- 2014
Chief Scientific Founder, Apexian Pharmaceuticals	2008 – present

## **MEMBERSHIPS**

American Association for Cancer Research  
 American Association for the Advancement of Science  
 Society for Pediatric Research  
 Alliance of Distinguished Rank Professors  
 American Society of Clinical Oncology

## **RESEARCH INTERESTS**

The inherent chemical instability of DNA, the production of reactive oxygen species during normal cellular metabolism, and the continuous exposure to environmental mutagens and extraneous agents, such as during cancer therapy, all represent a potential threat to the integrity of the DNA of cells. Recently, we have focused more specifically on the role of the major apurinic endonuclease DNA repair enzyme, APE1/Ref-1, in cancer both as a diagnostic and therapeutic factor and are studying the role of DNA BER and specifically APE1/Ref-1 as both a DNA repair and redox signaling factor for normal and cancer cells. We and others have shown that the Ape1/Ref-1 protein is significantly and dramatically elevated in pediatric and adult brain tumors, osteosarcomas and rhabdomyosarcomas, ALL, pancreatic cancer, ovarian, prostate, cervical and germ cell tumors. We are currently trying to understand APE1/Ref-1's role in these cancers and others, and determining how to modulate its activity for therapeutic applications (small molecule inhibitors). Our primary focus is currently directed toward pediatric and adult gliomas, pediatric leukemia/neuroblastoma, and pancreatic cancer.

- Molecular and cellular biology, biochemistry and translational applications of eukaryotic DNA base excision repair (BER).
- Regulation and function of AP endonuclease (Ape1/Ref-1) in normal and cancer cells. The multifunctional mammalian APE1 is responsible for the repair of AP (abasic) sites in DNA.
- APE1/Ref-1 is a multifunctional protein that has also been shown to function as a redox factor facilitating the DNA-binding capability of numerous transcription factors (Fos, Jun, HIF-1, PAX, NFkB, STAT3) as well as p53.
- Studies of DNA repair genes involved in repairing base damage that occurs from oxidative and alkylation events in normal and tumor cells.
- Studies relating to DNA damage and repair of neuronal cells resulting in chemotherapy induced peripheral neuropathy (CIPN); peripheral neuropathy and cognitive dysfunction ("chemobrain")
- Cross-talk between the BER and the NER DNA repair pathways in peripheral neurons.
- Redox signaling in mammalian cells.
- Anti-angiogenesis therapeutics in cancer and non-cancer systems including macular degeneration and neo-vascularization.
- Identification and development of small molecule inhibitor's of both APE1/Ref-1's redox signaling and DNA repair functions.
- Continued development of APX3330, and analogues that blocks APE1/Ref-1's redox function for Phase I and eventual Phase II trials in pancreatic cancer and other indications.
- Phase I trials for APX3330 opened Jan, 2017: NCT03375086 - A Study of APX3330 in Patients With Advanced Solid Tumors (APX3330)

## **RESEARCH AND PROFESSIONAL EXPERIENCE**

- |             |  |
|-------------|--|
| 1979 - 1981 | M.S. graduate student and teaching assistant, Zoology Department, Louisiana State University, Baton Rouge, LA under the direction of Dr. William R. Lee. Mutagenesis in oocytes of <i>Drosophila</i> in DNA repair competent and deficient strains.          |
| 1981 - 1984 | Ph.D. graduate student and research assistant, Genetics Program, Louisiana State University, Baton Rouge, LA under the direction of Dr. William R. Lee. Molecular analysis of x-ray mutations at the <i>Adh</i> locus in <i>Drosophila</i> .                 |
| 1984 - 1987 | American Cancer Society Postdoctoral Fellow, The Rockefeller University, New York, NY. Postdoctoral study in the laboratory of Dr. Michael W. Young. Molecular analysis of the developmentally regulated neurogenic <i>Notch</i> gene in <i>Drosophila</i> . |
| 1987 - 1993 | Assistant Professor, Department of Molecular and Cellular Biochemistry, Loyola University Medical School, Maywood, IL 60153  |

1992 - 1993	Assistant Professor of Medicine, Loyola University Medical School, Maywood, IL 60153
1993 - 1998	Associate Professor, Department of Pediatrics, Section of Pediatric Endocrinology, and Department of Biochemistry & Molecular Biology, Indiana University School of Medicine, Indianapolis, IN 46202
1994 – Present	Indiana University Simon Cancer Center (IUSCC) member
1995 - 2017	Associate Director, Herman B Wells Center for Pediatric Research, Riley Hospital for Children, Indiana University School of Medicine, Indianapolis, IN 46202
1998 - 1999	Associate Professor, Department of Pediatrics, Section of Hematology/Oncology, and Department of Biochemistry & Molecular Biology, Indiana University School of Medicine, Indianapolis, IN 46202
1999 – Present	Professor, Department of Pediatrics, Section of Hematology/Oncology, and Department of Biochemistry & Molecular Biology, Indiana University School of Medicine, Indianapolis, IN 46202
2000 – 2001	Co-Program Leader, Pediatric Oncology Research Program, IU Simon Cancer Center, Indiana University School of Medicine, Indianapolis, IN 46202 (Program disbanded for reorganization in 2001).
2001 – 2005	Co-Program Leader, Experimental Therapeutics Research Program, IU Simon Cancer Center, Indiana University School of Medicine, Indianapolis, IN 46202
2001 – 2008	Jonathan and Jennifer Simmons Professor of Pediatrics, Department of Pediatrics, Indiana University School of Medicine, Indianapolis, IN 46202
2003 – Present	Professor, Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN 46202
2005 – Present	Associate Director of Basic Science Research, IU Simon Cancer Center
2008 – Present	Director, Program in Molecular Oncology and Experimental Therapeutics, Department of Pediatrics, Indiana University School of Medicine
2008 – 2012	Chair, Indiana CTSI Preclinical Project Development Team (TRAC1)
2008 – Present	Betty and Earl Herr Chair in Pediatric Oncology Research Indiana University School of Medicine, Indianapolis, IN 46202
2010 – 2013	NCI Initial Review Group, Subcommittee F Manpower and Training
2010 – 2014	Chair, Scientific Advisory Board, RetinoRX (RRX)
2012 – 2017	Co-Director, Chemical Biology and Drug Development
2008 – Present	Chief Scientific Officer and Founder, Apexian Pharmaceuticals, Inc., Indianapolis, IN
2017	Education Board Member, American Health Council

## **PATENTS**

Selected primary list below. Over 75 patents issued Internationally.

1. Methods and Compositions for the Use of Apurinic/Apyrimidinic Endonucleases, Mark R. Kelley Lead Investigator, Patent Number 5919643, Issued 07/06/1999.
2. DNA Sequences Encoding Fusions of DNA Repair Proteins and Uses Thereof, Mark R. Kelley Lead Investigator, Patent Number 6046036, Issued 04/04/2000.
3. GHRH-RP Compositions and Methods, Mark R. Kelley Lead Investigator, Patent Number 6159934, Issued 12/12/2000.
4. US 6,190,661 B1 Issued: February 20, 2001
  - a. Title: Methods and Compositions for use of Apurinic/Apyridimic Endonucleases
5. US 6,406,917 B1 Issued: June 18, 2002
  - a. Title: Methods and Compositions for use of Apurinic/Apyridimic Endonucleases
6. US 9,040,505 B2 Issued: May 26, 2015
  - a. Title: Benzoquinone derivative E3330 in combination with chemotherapeutic agents for treatment of cancer and angiogenesis
  - b. Other countries:
 

Japan	5646327	Nov. 14, 2014
a. Australia	2008304619	Jan. 7, 2016
b. Canada	2,700,365	July 5, 2016
c. China	ZL 200880117660.0	Nov. 5, 2014
d. Korea	10-1572688	Nov. 23, 2015
e. Russia	2510270	Dec 20, 2016
f. South Africa	2010/02246	Feb 24, 2016
g. India	289852	Nov. 23, 2017
h. South Korea	10-1689796	Dec. 20, 2016
i. Australia	2015268612	June 8, 2017
j. France	2203162	Nov. 8, 2017
k. Germany	2203162	Nov. 8, 2017
l. Italy	2203162	Nov. 8, 2017
m. Spain	2203162	Nov. 8, 2017
n. United Kingdom	2203162	Nov. 8, 2017
o. 3 other countries in progress		
7. US 9,089,605 B2 Issued: July 28, 2015
  - a. Title: Quinone derivatives, pharmaceutical compositions and uses thereof
  - b. Other countries:
 

Canada	2,700,274	Aug. 22, 2017
a. Japan	5628674	Oct. 10, 2014
b. France	22031161	May 9, 2018
c. Germany	22031161	May 9, 2018
d. Italy	22031161	May 9, 2018
e. Spain	22031161	May 9, 2018
f. United Kingdom	22031161	May 9, 2018
8. US 9,193,700 Issued: November 24, 2015
  - a. Title: Quinone Compounds for Treating APE1 Mediated Diseases

- b. Other countries:
 

Australia	2012258665	Sept. 7, ,2017
a. China	ZL201280029978.X	Aug. 17, 2016
b. Japan	6109821	Mar. 17, 2017
c. Japan	6277982	Jan. 18, 2018
d. 9 other countries in progress		
  
- 9. US 9,877,936 Issued: January 30, 2018
  - a. Title: Quinone Compounds for Treating APE1 Mediated Diseases
  
- 10. US 9,315,482 Issued: April 19, 2016
  - a. Title: Compounds and Methods for Treating Leukemia
  
  - b. Other Countries:
 

South Africa	2014/06172	May 25, 2016
a. Australia	2013232207	Aug. 10, 2017
b. Israel	234273	Nov. 1, 2017
c. 8 other countries in progress		
  
- 11. US application 15/575,519 Submitted: November 20, 2017
  - a. Title: Methods of Targeting APE1/Ref1 to Inhibit Hypoxia Signaling Genes
    - i. (treatment for pancreatic cancer and MPNST)
  - b. Other countries: 17 other countries in progress
  
- 12. PCT/US2018/014252 Submitted: January 18, 2018
  - a. Title: Prophylactic Treatment of Acute Myeloid Leukemia
  
- 13. PCT/US2018/015205 Submitted: January 25, 2018
  - a. Title: Use of APE1/Ref-1 – Redox specific inhibitors in combination therapies for Treating metastatic prostate cancer
  
- 14. PCT/US2018/023346 Submitted March 20, 2018
  - a. Title: Use of APE1/Ref-1 – Inhibitors in combination therapies for treatment of cancer
  
- 15. PCT/US2018/027786 Submitted: April 16, 2018
  - a. Title: Enhancement of APE1 Repair Function for Reversal of Neuronal Sensitivity
  
- 16. US application 15/411,450 Submitted: January 20, 2017
  - a. Title: Compounds, Compositions and Methods for Treating Oxidative DNA Damage Disorders
  
- 17. PCT/US2018/037753 Submitted: June 15, 2018
  - a. Title: Therapeutic Agent for Tuberous Sclerosis Complex (TSC)
  
- 18. PCT/US2018/15205 Submitted: January 25, 2018
  - a. Title: Use of APE/REF-1 Redox Specific Inhibitors for Treating Metastatic Prostate Cancer
  
- 19. US application 62/628,093 Submitted: February 8, 2018
  - a. Title: Targeting Ocular Diseases with Novel APE1/REF-1 Inhibitors

**ACTIVE GRANTS**

R01CA205166 Kelley 04/01/2017 - 03/31/2022 3.0 Calendar Months  
 NIH/NCI \$569,912  
 (PQ9) Mechanistic Role of APE1 and BER in chemotherapy-induced peripheral neuropathy  
 Goals: Determine the mechanistic role of APE1 and BER following platinum therapies and induction or protection from CIPN.

R01 CA167291-06 Kelley/Fishel (co-PIs) 01/01/13-03/31/23 2.4 Calendar Months  
 NIH \$493,726  
 Exploiting the Ref-1 node in pancreatic cancer: tailoring new pancreatic cancer therapy using multi-targeted combinations  
 Goals: Study the role and interaction of Ref-1 in tumor and stroma of PDAC as well as identifying potential new combination targets affecting the Ref-1 signaling node.

Pediatric Oncology Research Grant 07/01/2016-06/30/2018 0 Calendar Months  
 Tom Wood Lexus Foundation \$40,340  
 Goals: Research the potential use of APX3330 and second-generation compounds for pediatric tumors and anti-CIPN

IRG-16-192-31 Kelley (PI) 01/01/13-12/31/19 0 Calendar Months  
 American Cancer Society \$360,000 No Salary Support  
 IU Simon Cancer Center Institutional Research Grant  
 Goals: Institutional ACS grant to furnish young investigators with pilot funding

P30 CA082709-14 Loehrer, P (PI) 09/01/08-08/31/19 2.40 Calendar Months  
 NIH/NCI \$1,559,793  
 Cancer Center Support Grant  
 Goals: Associate Director of Basic Science responsibilities and roles  
 Role: Associate Director of Basic Science

4UL1TRR001108 Shekhar (PI) 05/01/08 – 04/30/18 Role: PDT member and Mentor  
 NCRR No Salary Support  
 Title: Indiana Clinical and Translational Sciences Institute – T32 Program  
 To establish a new training program providing mentoring programs and individual training fellowships to pre- and post-doctoral candidates in clinical and translational research programs within the Indiana CTSI.  
 Year 1 Budget: \$176,199  
 Total Budget: \$880,995

T32GM077229-01A1 Mirmira, R (PI) 07/01/08 – 06/30/18 Role: Trainer  
 NIHT-32 \$397,771 No Salary Support  
 Indiana Medical Scientist/Engineer Training Program  
 Project: Train engaging physician-scientist who are poised to pursue careers as clinical investigators in hypothesis-driven, investigator-initiated research.

2T32HL007910 Broxmeyer (PI) 07/01/1999 – 08/31/19 Role: Mentor  
 NHLBI \$344,996 No Salary Support  
 Basic Science Studies on Gene Therapy of Blood Diseases  
 To continue training the next generation of scientists in the clinically-relevant medical area of gene transfer for effective modulation of normal cell growth, and gene therapy

**Pending:**

CA231267

05/01/2018 – 04/30/2023

Mark R. Kelley, Ph.D.  
2.40 Calendar Months

NIH/NCI

\$555,199

(PQ12) Enhancement of DNA repair in neurons via a targeted APE1 small molecule modifier to decrease and reverse chemotherapy-induced peripheral neuropathy (CIPN)

Goals: To apply the knowledge gained from understanding that DNA damage is critical for the development of neuropathy and advancing the development of a new treatment strategy by pharmacologically modifying APE1-mediated DNA repair.

**Received an impact score of 23** (PQ grants are not percentiled). Pending council review.

### **PREVIOUSLY FUNDED GRANTS**

1. Analysis of a *Drosophila* DNA repair gene. American Cancer Society; July 1, 1988 to June 30, 1990. Total direct costs = \$116,000. PI.
2. DNA repair in *Drosophila* and humans: Evolutionary implications. Schweppe Career Development Award. July 1, 1989 to June 30, 1992. Total direct costs = \$45,000. PI.
3. Hypothalamic prolactin mediates estrogen-LHRH interactions in brain. V.A.; Jan. 1, 1991 to Dec. 31, 1993. Total direct costs, \$344,952. PI., Nicholas Emanuele, M.D. Co-PI.
4. Molecular studies of the structure of spectrin repeats. Natl. Amer. Heart Assoc.; July 1, 1991 to June 30, 1994. Total direct costs = \$120,000. PI., Leslie Fung, Ph.D. Co-PI.
5. The effect of EtOH on GHRF-GH axis, puberty to adult. NIH; R01-AA08661, Sept. 1, 1990 to Aug. 31, 1995. Total direct costs, \$409,710. PI., Mary Ann Emanuele, M.D. Co-PI.
6. Molecular characterization of neural genes containing the triplet repeat CAG. BRSG, July 1, 1994 to June 30, 1996. Total direct costs = \$39,848. PI.
7. Cloning and characterization of developmental and neural genes containing CAG repeats. James Whitcomb Riley Memorial Assoc., July 1, 1994 to June 30, 1996. Total direct costs = \$79,696. PI.
8. Oxidative DNA damage and the analysis of 8-oxoguanine by a multifunctional protein. CTR. Jan. 1, 1994 to Dec. 31, 1996. Total direct costs = \$180,000. PI.
9. The effects of ethanol on male rodent reproduction. NIH; R01-AA06755, June 1, 1993 to May 31, 1996. Total direct costs, \$344,952. PI., Mary Ann Emanuele, M.D. Co-PI.
10. Analysis of the structure of spectrin. National Science Foundation, Sept. 1, 1994 to Aug. 31, 1997. Total direct costs, \$300,000. PI, Leslie Fung, Ph.D., Co-PI.
11. Correction of FA-A with the 8-oxoguanine DNA glycosylase DNA repair gene S3. Fanconi Anemia Foundation; June 1, 1996 to Dec. 31, 1997. \$44,815 total direct cost for 1.5 years. PI.
12. Complementation of Fanconi's Anemia Type A with the DNA repair gene S3. March of Dimes; April 1, 1996 to March 31, 1998. \$101,630 total direct costs for two years. PI.
13. Molecular Analysis of *Drosophila* AP Endonucleases. NIH/NCRR; Sept. 30, 1993 to Sept. 29, 1998. \$568,206 total direct costs for 5 years. PI.
14. BRSG. PI; A.R. Evans, 8/1/98-7/31/99. \$25,000. "Role of oxidative DNA damage and DNA repair proteins in neuronal derived cells." Co-PI.

15. Oxidative damage and the role of DNA repair enzymes in Parkinson's disease. National Parkinson Foundation. July 1, 1999 to June 30, 2001. \$80,000 direct costs for 2 years. PI. Declined acceptance due to overlap with other grants.
16. Complementation of FA-A with the *Drosophila* S3 DNA repair gene. NRSA fellowship to Dr. Yi Xu, 9/30/96-9/29/99. Mentor/sponsor.
17. IU Cancer Center Experimental Therapeutics Pilot Program, M. Kelley, P.I., 7/1/99 – 6/30/00; \$15,000. "Elevated expression of the DNA repair/redox enzyme APE/ref-1 in prostate cancer: Diagnostic and therapeutic implications."
18. IU Cancer Center Sarcoma Pilot Proposals, B. Thomson, P.I., 7/1/99 – 6/30/00; \$15,000; "An Immunohistological Evaluation of the Redox and Repair Activities of Apurinic/Apyrimidinic Endonuclease (APE) in Pediatric Sarcomas". Co-PI.
19. Bear Necessities Pediatric Cancer Foundation. B. Thomson, P.I.; 8/1/99-7/31/00. "An Immunohistological evaluation of the redox and repair activities of apurinic/apyrimidinic endonuclease/redox factor 1 (APE/ref-1/ref-1) in a chemosensitive malignancy; Pediatric germ cell tumors." \$10,000 total costs. Co-PI.
20. GOG (Gynogologic Oncology Group) D. Moore, P.I. 7/1/99 – 6/30/00; \$40,000; "Expression of the DNA repair/redox enzyme APE/ref-1 in epithelial ovarian cancers: translational implications for diagnostic and therapeutics". Co-PI. No salary.
21. Lance Armstrong Foundation. Robertson and Kelley. 1/1/2000 – 12/31/00. AP endonuclease in testicular cancer. \$50,000 per year.
22. R43 CA83507. NIH/SBIR program; M. Kelley, PI; 01/06/00 – 01/05/01 "Development of Antibodies to Study Oxidative DNA Damage" \$99,953; Phase I Small Business Innovative Research (SBIR) program application with Novus Biologicals, Inc., Littleton, CA. IU portion of total costs is \$30,000 for one year.
23. BC991226 CDMRP. 7/1/2000 – 6/30/03. Predoctoral training grant to Melissa Limp-Foster, graduate student in my laboratory, DOD. DNA base excision repair (BER) and cancer gene therapy: Use of the human n-methylpurine DNA glycosylase (MPG) to sensitize breast cancer cells to low dose chemotherapy. \$22,000 per year for 3 years. (Mentor; Kelley)
24. Susan G. Komen Breast Cancer Predoctoral Fellowship to Mikael Rinne, graduate student in my laboratory. Fellowship declined due to awarding of similar grant by the DOD.
25. R01 ES07815. PI; W. Deutsch, 8/1/96-7/31/02; 5% effort; NIH, Co-PI (subcontract), \$217,250 (\$80,000 for M. Kelley), "Oxidative DNA damage and the analysis of 8-oxoG repair".
26. R01 CA76643. PI; K. Robertson, 7/1/98-6/30/03; 15% effort; NCI, \$189,027 "APE expression/Leukemia response to chemo/radiotherapy", Co-PI
27. IU Cancer Center Translational Pilot Project Program. 05/01/02-04/30/03. Chemoprotection of human stem and progenitor cells in a lymphoma-xenograft model by repair of alkylator-induced mitochondrial and nuclear DNA damage. PI; Karen E. Pollok, co-PIs; Mark R. Kelley and Kenneth G. Cornetta.
28. OC990085 CDMRP. PI; M.R. Kelley, 7/1/00 – 6/30/03; 20% effort. Direct costs per year; \$99,999. "Expression of the DNA Repair/Redox Enzyme APE/REF-1 in Epithelial Ovarian Cancers: Diagnostic, Mechanistic and Therapeutic Studies"
29. CA75426. Overall PI; D. Williams, 5/11/98-2/28/04; 15% effort; NIH/NCI; Program Project Grant "Dose

Intensification by Gene Transduction in Human Cancer”, Co-P.I. on Project 1- D. Williams, P.I., \$238,383. Co-P.I. on Project 3- W. Martin, P.I., \$209,235.

30. T32 DK07519 Dr. David C. Caldwell NRSA Trainee on NIH Training grant “Regulation of Hematopoietic Cell Production”. 2001-2004.
31. BC011075 CDMRP. 07/01/01 – 06/30/04. Predoctoral training grant to Mikael Rinne, MD/PhD graduate student in my laboratory, DOD. Imbalancing the DNA base excision repair pathway sensitizes breast cancer cells to chemotherapy and modulates nucleotide excision repair: Potential for combination chemotherapy. \$65,993 for 3 years. (Mentor; Kelley)
32. BC991226 CDMRP. 7/1/2000 – 6/30/04. Predoctoral training grant to Tia Harvey, graduate student in my laboratory, DOD. DNA base excision repair (BER) and cancer gene therapy: Use of the human n-methylpurine DNA glycosylase (MPG) to sensitize breast cancer cells to low dose chemotherapy. \$22,000 per year for 3 years. (Mentor; Kelley)
33. OC00113 CDMRP. P.I.; Williams, S. 09/29/01 – 09/28/04. 10% effort. Program Project Grant: DNA Repair and Cell Cycle Therapeutic Targets for Ovarian Cancer. PI of Project 2: “Therapeutic manipulation of the DNA base excision repair pathway for ovarian tumor sensitization”. \$1,000,000 total costs for PPG for 3 years. \$78,000 direct costs per year for Project 2.
34. R01 NS38506. PI; M.R. Kelley, 2/14/00- 1/31/05; 30% effort; NIH/NINDS, \$153,271 “Oxidative DNA damage and repair in CNS cells”. Analysis and overexpression of human oxidative DNA repair genes in pre- and postmitotic cells.
35. P30 DK49218 Core Centers of Excellence in Molecular Hematology, NIH/NIDDK; E Srour, PI, 9/1/99- 8/31/06; Core leader of the Cell and Molecular Biology Core. 10% Salary support only.
36. ES05865. LeDoux, S., PI; M.R. Kelley PI of subcontract; 07/01/00-06/30/05; \$35,022 direct subcontract costs. 5% effort. “Repair of DNA damage induced by environmental agents”
37. ES03456. Wilson, G., PI; M.R. Kelley PI of subcontract; 7/01/01-6/30/06; \$35,022 direct subcontract costs. 5% effort. Repair of Beta cell toxins: Mechanisms of action
38. Ovar’coming Ovarian Cancer support grant; Nov. 1 2006 –Oct 30, 2007. \$25,000 direct costs for supplies only.
39. R01 CA94025 PI: MR Kelley, 08/01/03 – 7/31/09, 5% effort NIH/NCI 12/6 \$173,817 Therapeutic/Mechanistic Role of APE1 in Germ Cell Tumors
40. R01 CA106298 PI: Kelley 05/1/04 – 04/30/10, \$ 200,183, 15% effort. Imbalancing DNA BER to enhance ovarian tumor sensitivity. Goals: Knocking down the human AP endonuclease APE1 or overexpressing MPG to sensitize tumor cells to chemo or IR.
41. NCI 5T32CA111198 PI : Nakshatri, 04/01/05 – 03/31/11 Role: Trainer, Cancer Biology Training Program  
R21CA122298 PI: Fishel 05/01/07-04/30/10 \$120,000 Role: Co-investigator 5% effort.  
Chemosensitization of Pancreatic Tumors via Inhibition of a DNA Base Excision Repair Enzyme, Ape 1
42. R21 AI073091 PI : Sullivan 07/01/08-06/30/10 \$125,000 Role : Co-investigator, 5% effort  
NIH/NIAID APEs as novel drug targets in AIDS opportunist Toxoplasma
43. Apexian Pharmaceuticals PI: MR Kelley 07/01/08 – 10/31/09 \$18,940 (No salary support) Targeting

APE1 for cancer therapies

44. Executive Programme of Cooperation in the field of Science and Technology 2008-2010 . Co-PI (Kelley and Tell). Grant for a joint research project between Italy and United States of America, granted by the Italian/US Agency for the Foreign Affairs.
45. R41 EY019784 PI: Haslanger/Kelley/Qiao 09/30/09-09/29/10 \$70,671 10% effort  
NIH/Apexian Pharmaceuticals, Inc, Redox protein APE1/Ref-1 as a target for age-related macular degeneration
46. NIDDK 5T32DK007519 PI: Broxmeyer 07/01/1985 – 06/30/11, Role: Mentor, Regulation of Hematopoietic Cell Production
47. NIH/NCI R01CA121168 S1 PI: Kelley, 08/01/09-07/31/11 , \$232,959 , no salary support, The Role of Ape1 in Neurotoxicity of Cancer Treatments
48. NIH Apexian Pharmaceuticals Contract PI: Kelley, 09/01/10 – 08/31/11, \$33,027, 1% effort, Testing APE1 DNA Repair inhibitors
49. Purdue University (Jordan-Rieger) PI: Kelley/Howard, 11/01/10-10/31/11, \$46,405, (no salary support), IU/PU Joint Working Group Project-Pancreatic Working Group
50. Simmons Clinical Studies Fund (Kelley) 01/01/12 – 12/31/12, \$15,000, No Salary Support, Novel therapeutic strategy for childhood acute lymphoblastic leukemia (ALL), with focus on relapsed T-cell leukemia, Goals: To determine the therapeutic efficacy of Ref-1 redox blockade in animal models of relapsed childhood ALL using novel Ref-1 inhibitors
51. CTSI Program Project Planning P3 (Kelley/Howard) 10/01/11-04/01/13, \$100,000 No salary support Model for Transformative Science using a Multi-Investigative Team Approach
52. NCI R01 CA114571 Georgiadis (PI) Role: Co-investigator 07/01/06 – 05/31/13, \$155,117, 0.60 calendar months, Mechanism of Redox Regulation by Apel / Ref-1
53. R01CA121168-05 Kelley (PI) 04/01/08-01/31/14 NIH/NCI \$270,282 direct costs per year. The Role of Ape1 in Neurotoxicity of Cancer Treatments Goals: Studying the role of Ape1 in peripheral (DRG) and central (hippocampal) neurons following treatment of primary rat neurons with a variety of chemotherapeutic agents that have been shown to cause peripheral neuropathy or chemobrain (neurocognitive dysfunction).
54. CTSI Kelley/Vasko (co-PIs) 03/01/2012 – 09/30/2013 \$34,555. Treatment of peripheral neuropathy using novel small molecule inhibitors of APE1. Goals: Study impact of small molecule inhibitors of APE1 in peripheral neuropathy
55. IUSCC Kelley/Fishel/Cardoso (co-PIs) 08/15/12-08/14/13 \$54,740 Novel Therapeutics Strategy for Refractory and Relapse Childhood ALL. Goals: Mechanism of APE1 function in ALL models.
56. CTSI Program Project Planning P3 Kelley/Vasko (co-PIs) 01/01/13 – 12/31/14 \$70,000. Chemotherapy Induced Peripheral Neuropathy. Goals: Mechanistic investigation of important DNA repair pathways in the quest to understand chemotherapy-induced peripheral neuropathy (CIPN)
57. Kelley/Korc (co-PIs) 07/01/11-06/30/15 IUPUI Signature Center Initiative \$300,000. IUPUI Pancreatic Cancer Signature Center: Designation and Funding for Pancreatic Cancer Working Group. Goals: Support for pancreatic working group; infrastructure, models, primary panc lines and tissues as well as GEM

models.

58. IU Health Strategic Research Initiative in Oncology and Neurobiology 06/15/14-06/14/15  
Georgiadis/Kelley (co-PIs) \$50,000 Identification and Characterization of Small Molecule Activators of APE1 to Protect DRGs Against Chemotherapy Induced Neurotoxicities.
59. NIH/NCI 1R43CA171344-01A1 Kelley/Haslanger (co-PI) 04/01/13-03/31/15 \$240,322 Novel Therapeutic Strategy for Refractory and Relapse Childhood Acute Leukemia  
Goals: Develop newly discovered Ref-1 redox inhibitors for clinical trials
58. Kelley / Cardoso / Batra (co-PIs) 09/01/13 – 12/01/15 \$250,000  
Hyundai Hope on Wheels  
Studies to Support Clinical Translation of a Novel Ref-1-Targeted Therapy for Relapsed Childhood Acute Lymphoblastic Leukemia  
Goals: Basic and translational mechanisms of Ref-1 in relapsed and refractive ALL
59. Kelley (PI) 07/01/12-06/30/17 0.06 Calendar Months  
Apexian Pharmaceuticals Contract \$50,115  
Testing ApeX compounds for efficacy in leukemia models  
Goals: Testing new Ref-1 redox inhibitors in leukemia models for efficacy
60. R21NS091667-01 Kelley/Vasko (MPIs) 04/01/2015 – 03/01/2018 0.6 Calendar Months  
NIH \$429,000  
DNA damage and repair in inflammation-induced peripheral sensitization  
Goals: Mechanistic studies to determine the role of APE1 and DNA repair following inflammation induced DNA damage in DEG neurons.

### **COLLABORATIONS WITH OTHER UNIVERSITIES / INSTITUTIONS**

- 2008 – 2010 University of Udine, Italy. Joint Research project between Italy and USA granted by the Italian/US Agency for Foreign Affairs.
- 2006 – present University of Udine, Italy. Exchange program for graduate science students between the University of Udine and IUPUI.
- 2007 – present University of Michigan. Provision of drug compound for research.
- 2008 – 2014 Johns Hopkins University, MD. Provision of drug compound for research.
- 2009 – 2013 University of Asahikawa Medical School, Japan. Provision of drug compound for research.
- 2009 – 2013 Ohio State University. Provision of drug compound for research
- 2010 – 2012 Butler University, Indianapolis, IN. Provision of drug compound for research
- 2010 – 2012 Tulane University, New Orleans, IN. Provision of drug compound for research
- 2011 – present Ophthalmology, Henry Ford Health System
- 2015 – present Cardiff University, Cardiff, UK. Active collaboration with Dr. Andrew Tee
- 2015 – present University of Florence, Florence, Italy. Active collaboration with Dr. Caludiu Supuran
- 2016 – present Thomas Jefferson University, PA. Active collaboration with Dr. Jonathan Brody

### **INVITED SEMINARS**

- Loyola University Medical School, Molecular Biology Program, Maywood, Illinois; January 20, 1989
- University of Texas System Cancer Center, Experimental Carcinogenesis Department, Smithville, Texas; March 8, 1989.
- University of Texas at Austin, Clayton Foundation Biochemical Institute, Austin, Texas; March 10, 1989
- Oregon State University, Biomedical Sciences Specialized Center of Research, Corvallis, Oregon; March 30,

1989.

Central Michigan State University, Department of Biology, Mt. Pleasant, Michigan; January 10, 1991.  
Wayne State University, Department of Biological Sciences, Detroit, Michigan; April 15, 1991.  
DePauw University, Department of Biological Sciences, Greencastle, Indiana; Dec. 6, 1991.  
Northern Illinois University, Graduate Student Symposium, Dekalb, Illinois; January 30, 1992.  
Indiana University Medical School, Dept. of Pediatric Endocrinology, Indianapolis, Indiana; January 25, 1993.  
Keystone Symposium on Nucleases, Tamarron, Colorado; February 24, 1993.  
National Institute of Aging (NIA, NIH), Molecular Genetics, Baltimore, MD; March 8, 1993.  
Indiana University Medical School, Wells Institute, Indianapolis, Indiana; March 22, 1993.  
Oregon Health Sciences University, Center for Research on Occupational and Environmental Toxicology, Portland, Oregon; April 9, 1993.  
Indiana University Medical School, Dept. of Biochemistry and Molecular Biology, Indianapolis, Indiana; November 1, 1993.  
University of Colorado Health Sciences University, Denver, Colorado; January 13, 1994.  
Wabash University, Crawfordsville, Indiana; January 19, 1995.  
DePauw University, Greencastle, Indiana; February 17, 1995.  
M.D. Anderson Cancer Center, Science Park Research Center, Smithville, TX; May 12, 1995.  
University of Texas Medical Center, Galveston, TX; May 15, 1995.  
University of Texas Medical School, UT Cancer Center, San Antonio, TX; May 17, 1995.  
Fanconi Anemia Research Foundation Annual Meeting, Boston, MA; Nov. 10, 1995  
University of North Carolina, Chapel Hill, NC; June 12, 1996.  
Emory University, Atlanta, Ga; September 12, 1996.  
Indiana University Gary NW Medical School; March 7, 1997.  
Cornell University, Ithaca, NY; Sept. 30, 1997.  
4<sup>th</sup> International Germ Cell Tumor Conference, Leeds, England; Nov. 13-16, 1997.  
Onyx, Inc., Richmond, CA; Feb. 23, 1998.  
Yale University, Dept. of Pediatrics, New Haven, CT; March 25-26, 1998.  
Indiana University Medical School, Department of Pediatrics; February 8, 1999  
Environmental Mutagen Society, Invited Presenter, Washington, D.C., March 27-April 1, 1999  
Indiana University Biochemistry Department Seminar; April 26, 1999  
DePauw University Science Research Fellows Seminar Series, Greencastle, IN; April 30, 1999.  
Children's Hospital of New Orleans, New Orleans, LA; January 9-11, 2000.  
Indiana University Cancer Center Seminar Series; February 23, 2000.  
Midwest DNA Repair Meetings, Invited Presenter, Louisville, KY; May 20-21, 2000.  
OSI Pharmaceuticals, New York; June 9, 2000.  
NCI Pediatric Oncology Division, Bethesda, MD; June 18-19, 2000.  
Gynecologic Oncology Group, St. Louis, MO; July 28-29, 2000.  
Eppley Institute for Research in Cancer, University of Nebraska Cancer Center, Omaha, Nebraska; Jan. 24-26, 2001  
University of South Alabama School of Medicine, Mobile, AL; March 28-29, 2001.  
Indiana Branch of the American Society of Microbiology Annual Meeting, Boone County National Park; April 6-8, 2001.  
University of Illinois at Chicago, Dept. of Pharmacology, Chicago, IL; May 23-24, 2001.  
Chicago Cancer Experimental Therapeutics Group, Chicago, IL; May 23, 2001.  
AXYS Pharmaceuticals, South San Francisco, CA; July 9-11, 2001.  
Rigel Pharmaceuticals, South San Francisco, CA; July 20-22, 2001.  
5<sup>th</sup> International Germ Cell Tumor Conference, Leeds, England; Sept. 12-15, 2001.  
American Association of Cancer Research, DNA base excision repair; Mini-symposium speaker and co-chair, April 9, 2002.  
Pennington Biomedical Research, Louisiana State University, Baton Rouge, LA; May 2, 2002.  
Pediatric Faculty Research Seminar, IU School of Medicine, Indianapolis, IN; May 13, 2002.  
Dean's Sponsored Grand Rounds, IU School of Medicine, Indianapolis, IN; Sept. 18, 2002.  
Pangene, Fremont, CA; Jan. 14, 2003.

NIH Chemical Pathology Workshop, Ventura, CA; Jan. 18, 2003.  
Marian College, Indianapolis, IN; Feb. 4, 2003.  
Indiana Univ-Purdue Univ Indianapolis, Indianapolis, IN; Feb 7, 2003.  
Seminar at the Redox Biology Center, Univ of Nebraska, Lincoln, NE; March 18, 2003.  
Pediatric Grand Rounds, IUSOM, Dept of Pediatrics, Indianapolis, IN; April 30, 2003.  
University of Vanderbilt School of Medicine, Oct 23-25, 2003, Nashville, TN.  
Leuchemix, April 12, 2004  
Semafore, April 13, 2004, Indianapolis, IN  
Session organizer and speaker, 36th American Chemical Society Central Regional Meeting, June 2- 4, Indiana University-Purdue University Indianapolis (IUPUI). Biological Chemistry – DNA Repair  
Dept of Structural and Cell Biology, Univ of Texas Health Science Center, San Antonio, TX; Nov. 3, 2004  
Hematology/Oncology Section, Case Western Cancer Center, Cleveland, OH; Jan. 14, 2005.  
Renal Division, Indiana Univ School of Medicine; Jan 26, 2005.  
Radiation Oncology, Univ of Maryland School of Medicine; Feb 17, 2005.  
Institute of Psychiatric Research, Indiana Univ School of Medicine; May 5, 2005  
Dept of Pediatrics, IU School of Medicine, Wells Center; Dec. 8, 2005  
C.R.O.E.T., Oregon Health Sciences University; April 24, 2006  
Dept of Biochemistry and Molecular Biology, Oregon Health Sciences University; April 25, 2006  
Dept of Pharmacology and Toxicology, Indiana Univ School of Medicine; May 23, 2006.  
Dept of Pharmacology, Univ of Texas Galveston Medical School; Oct 12-13, 2006.  
Dept of Pharmacology, Univ of South Alabama Medical School; Dec. 6-8, 2006.  
Speaker, Drug Information Association; 43<sup>rd</sup> annual meeting; June 20 – 23, 2007  
Eli Lilly and Co., Jeremy Graf Group; Feb. 26, 2007.  
Purdue University Cancer Center; Sept. 13, 2007.  
Oregon Health Science University, Symposium on Environmental exposure and genomic stability; Sept. 20, 2007.  
Notre Dame University/Cancer Center; 2007.  
Speaker, Gordon Conference, DNA Damage, Mutation and Cancer, March 9-14, 2008, Ventura, CA.  
Speaker, University of Kentucky, Dept of Physiology, March 24-25, 2008, Lexington, KY.  
University of Illinois, Dept of Molecular and Integrative Physiology, Champaign, IL, April 16-17, 2008.  
Speaker, Drug Information Association; 44th annual meeting; June 23 – 24, 2008  
Chair, Indiana Health Industry Forum's Cancer Oncology Summit; December 1 – 2, 2008  
Techpoint Seminar on Pediatric Oncology and the Wells Center, December 5, 2008  
Speaker, University of Chicago, Cancer Research Center, Chicago, IL, March 11 – 12, 2009  
Session Chair and Speaker, American Association for Cancer Research Annual Meeting, April 18, 2009  
Speaker, University of Southern California, December 4, 2009  
IU Purdue Oncology Retreat, Session Leader (Solid Tumors), Carmel, IN, February 27, 2010  
MD Anderson Department of Experimental Therapeutics, Houston, TX, August 24 – 25, 2010  
MD Anderson Department of Pediatrics – Research, Houston, TX, September 27 – 28, 2010  
Butler University Department of Pharmaceutical Sciences, Indianapolis, IN, April 14, 2011  
University of Illinois at Chicago Cancer Center, Chicago IL, May 25, 2011.  
Speaker, "Long Term Effects of Cancer Therapies: Understanding pathways and developing interventions to reduce the adverse consequences of success". Fred Hutchinson Cancer Research Center, Seattle Washington, June 10, 2011  
Winship Cancer Center Grand Rounds Speaker, Emory University, Atlanta GA, September 14, 2011  
Herman B Wells Center for Pediatric Research Pediatric Faculty Research Seminar speaker, October 20, 2011  
University of Michigan, College of Pharmacy, Ann Arbor, MI, October 24 – 26, 2012.  
Karmanos Cancer Institute Grand Rounds Speaker, Wayne State University, Detroit, MI, February 6-7, 2014  
Feist-Weiller Cancer Center Grand Rounds Speaker, Louisiana State University, Shreveport, LA, February 10-11, 2014  
Penn State Hershey Cancer Institute Grand Rounds Speaker, Penn State University, Hershey, PA, June 12-13, 2014

The University of Texas Health Science Center at San Antonio, Guest Speaker, San Antonio, TX, July 23-24, 2014  
Penn State Hershey Cancer Institute Grand Rounds Speaker, Penn State University, Hershey, PA, October 1-2, 2015  
Big Ten Cancer Research Consortium Summit 2016 Speaker, Indiana University Melvin and Bren Simon Cancer Center, Indianapolis, IN, September 9, 2016  
University of Illinois Chicago, College of Pharmacy, Department of Medicinal Chemistry and Pharmacognosy Seminar Series speaker, Chicago, IL, November 11, 2016  
The Next Giant Leap: Making The Cancer Moonshot A Reality, Speaker, Elsevier Cancer Panel, Boston, MA, November 16, 2016  
National Institute on Aging Laboratory of Molecular Gerontology, Lecturer, Baltimore, MD, December 20, 2016  
Hormel Institute International Cancer Research Conference, Lecturer, Austin, MN, June 19-20, 2017  
Mayo Clinic SPORE Seminar Series Lecturer, Rochester, MN, September 27, 2017  
IU Fall Showcase for TRIP (Translational Research Into Practice), Indianapolis, IN, November 1, 2017  
Bloomington Cancer Biology Seminar Series, Lecturer, November 13, 2017  
Molecular Therapeutics of Cancer Research Conference, Sundance, UT, July 22-26, 2018

## **PUBLICATIONS**

1. Sega, G.A., **Kelley**, M.R., Owens, J.G. and Carricarte, U.C. (1983) Caffeine enhancement of unscheduled DNA synthesis in spermatids of mice exposed to methyl methanesulfonate. *Mut. Res.* 108:345-358.
2. **Kelley**, M.R. and Lee, W.R. (1983) Mutagenesis in oocytes of *Drosophila melanogaster*. I. Scheduled synthesis of nuclear and mitochondrial DNA and unscheduled DNA synthesis. *Genetics* 104:279-299. PMID: PMC1202077
3. **Kelley**, M.R., Mims, I.P., Farnet, C.M., Dicharry, S.A., and Lee, W.R. (1985) Molecular analysis of x-ray induced alcohol dehydrogenase (*Adh*) null mutations in *Drosophila melanogaster*. *Genetics* 109:365-377. PMID: PMC1202492
4. Lee, W.R. and **Kelley**, M.R. (1986) Correction for differences in germ cell stage sensitivity in risk assessment. *Prog. Clin. Biol. Res.* 208:99-102.
5. Kidd, S., **Kelley**, M.R. and Young, M.W. (1986) Sequence of the *Notch* locus of *Drosophila*; relation of the encoded protein to mammalian clotting and growth factors. *Mol. Cell. Biol.* 6:3094-3108.
6. Russel, M., Kidd, S. and **Kelley**, M.R. (1986) An improved filamentous helper phage for generating single-stranded plasmid DNA. *Gene* 45:333-338.
7. **Kelley**, M.R., Kidd, S., Berg, R.L. and Young, M.W. (1987) Restriction of P element insertions at the *Notch* locus of *Drosophila melanogaster*. *Mol. Cell. Biol.* 7:1545-1548.
8. **Kelley**, M.R., Kidd, S., Deutsch, W.A. and Young, M.W. (1987) Mutations altering the structure of EGF-like coding sequences at the *Drosophila Notch* locus. *Cell* 51:539-548.
9. **Kelley**, M.R., Venugopal, S., Harless, J. and Deutsch, W.A. (1989) Antibody to a human DNA repair protein allows for the cloning of a *Drosophila* cDNA encoding an apurinic endonuclease. *Mol. Cell. Biol.* 9:965-973.
10. **Kelley**, M.R., Emanuele, M.A., Tentler, J. and Emanuele, N.V. (1990). Cross-reaction of albumin with polyclonal LH antibody on Western blots. *Endocrine Research* 16(4):477-491.
11. Azad, N., Emanuele, N.A., Halloran, M., Tentler, J. and **Kelley**, M.R. (1991). Presence of luteinizing

- hormone-releasing hormone (LHRH) mRNA in rat spleen lymphocytes. *Endocrinology* 128:1679-1681.
12. Emanuele, M.A., Tentler, J., Emanuele, N.V. and **Kelley**, M.R. (1991) *In vivo* effects of acute ETOH on rat alpha and beta luteinizing hormone gene expression. *Alcohol* 8:345-348.
  13. Grabowski, D., Carney, J. and **Kelley**, M.R. (1991) A *Drosophila* gene containing the *Opa* repetitive element is exclusively expressed in adult male abdomens. *Nucl. Acids Res.* 19(7):1709-1709.
  14. Guzder, S.N., **Kelley**, M.R. and Deutsch, W.A. (1991) *Drosophila* methyltransferase activity and the repair of alkylated DNA. *Mutation Research* 255:143-153.
  15. Grabowski, D.T., Carney, J.P. and **Kelley**, M.R. (1991) An adult male specific gene in *Drosophila* containing the repetitive element *Opa*. *Biochem. Biophys. Acta* 1090:115-118.
  16. Grabowski, D.T., Deutsch, W.A., Derda, D. and **Kelley**, M.R. (1991) *Drosophila* AP3, a presumptive DNA repair protein, is homologous to human ribosomal protein PO. *Nucl. Acids Res.* 19(15):4297-4297.
  17. Grabowski, D.T., Pieper, R., Futscher, B.W., Deutsch, W.A., Erickson, L. and Kelley, M.R. (1992) Expression of ribosomal phosphoprotein PO is induced by antitumor agents and increased in Mer- human tumor cell lines. *Carcinogenesis* 13(2):259-263.
  18. Emanuele, N.V., Jurgens, J.K., Halloran, M.M., Tentler, J.J., Lawrence, A.M. and **Kelley**, M.R. (1992) The rat prolactin gene is expressed in brain tissue: Detection of normal and alternatively spliced prolactin mRNA. *Molecular Endocrinology* 6:35-42.
  19. Emanuele, M.A., Emanuele, N.V., Halloran, M.M., Wallack, L. and **Kelley**, M.R. (1992) The effect of acute *in vivo* ethanol exposure on follicle stimulating hormone transcription and translation. *Alcoholism: Clin. Exp. Res.* 16:776-780.
  20. Emanuele, M.A., Tentler, J.T., Kirsteins, L., Emanuele, N.V., Lawrence, A. and **Kelley**, M.R. (1992) The effect of "binge" ethanol exposure on growth hormone and prolactin gene expression and secretion. *Endocrinology* 131:2077-2082.
  21. Wilson, D.M., Jurgens, J.K., Emanuele, N.V., Emanuele, M.A. and **Kelley**, M.R. (1992) Adult male rat brain prolactin is identical to pituitary prolactin: PCR cloning and sequencing of hypothalamic prolactin from intact and hypophysectomized adult male rats. *Endocrinology* 131:2488-2490.
  22. **Kelley**, M.R., Jurgens, J.K., Tentler, J., Emanuele, N.V., Halloran, M.M. and Emanuele, M.A. (1993) Coupled reverse transcription-polymerase chain reaction (RT-PCR) technique is quantitative and rapid: Uses in alcohol research involving low abundance mRNA species. *Alcohol* 10:185-189.
  23. Azad, N., LaPaglia, N., Abel, K., Jurgens, J., Kirsteins, L., Emanuele, N.V., **Kelley**, M.R., Lawrence, A.M. and Mohaghehpour, N. (1993) Immunoactivation enhances the concentration of luteinizing hormone-releasing hormone peptide and its gene expression in human peripheral T lymphocytes. *Endocrinology* 133:215-223.
  24. Wilson III, D.M., Deutsch, W.A. and **Kelley**, M.R. (1993) Cloning of the *Drosophila* ribosomal protein S3: Another multifunctional ribosomal protein with AP endonuclease DNA repair activity. *Nucl. Acids Res.* 21(10):2516.
  25. Tentler, J.J., Emanuele, M.A., Paloyan, E., Hoffman, E., Emanuele, N., Lawrence, A.M. and **Kelley**, M.R. (1993) Ethanol affects growth hormone releasing factor (GRF) synthesis *in vivo*, but not *in vitro*. *Endocrine* 1(2):141-146.

26. Morgan, S.E., **Kelley**, M.R. and Pieper, R.O. (1993) The role of the carboxy-terminal tail in human O<sup>6</sup>-methylguanine DNA methyltransferase substrate specificity and temperature sensitivity. *J. Biol. Chem.* 268:19802-19809.
27. Azad, N., Uddin, S., LaPaglia, N., Kirsteins, L., Emanuele, N.V., Lawrence, A.M., and **Kelley**, M.R. (1993) Luteinizing hormone-releasing hormone (LHRH) in rat prostate: Characterization of LHRH peptide, mRNA expression and molecular processing of LHRH in intact and castrated male rats. *Endocrinology* 133:1252-1257.
28. Halloran, M.M., Emanuele, M.A., Draski, L., Tentler, J.J., Emanuele, N.V. and **Kelley**, M.R. (1993) Failure of ethanol to induce changes in gonadotropin gene expression in selectively bred ethanol-sensitive rats. *Endocrine Research* 19:317-329.
29. Wilson, T.M., Carney, J.P. and **Kelley**, M.R. (1994) Cloning of the multifunctional rat apurinic/aprimidinic endonuclease (rAPEN)/redox factor from an immature T cell line. *Nucl. Acids Res.* 22:530-531.
30. Srivastava, C.H., **Kelley**, M.R., Monts, B.S., Wilson, T.M., Breyer, P.R. and Pescovitz, O.H. (1994) Growth hormone-releasing hormone receptor mRNA is present in rat testis. *Endocrine* 2:607-610.
31. Uddin, S., Emanuele, M.A., Emanuele, N.V., Reda, D. and **Kelley**, M.R. (1994) The effect of *in vitro* ethanol exposure on luteinizing hormone and follicle stimulating hormone mRNA levels, content and secretion. *Endocrine Research* 20:201-217.
32. Wilson, D.M., III, Tentler, J.T., Carney, J.P., Wilson, T.M. and **Kelley**, M.R. (1994) Acute ethanol exposure suppresses the repair of O<sup>6</sup>-methylguanine DNA lesions in castrated adult male rats. *Alcoholism: Clin. Exp. Res.* 18:1267-1271.
33. Wilson III, D.M., Deutsch, W.A. and **Kelley**, M.R. (1994) *Drosophila* ribosomal protein S3 contains an activity that cleaves DNA at AP sites. *J. Biol. Chem.* 269:25359-25364.
34. Lusitani, D.M., Qtaishat, N., LaBrake, C., Yu, R.N., Davis, J., **Kelley**, M.R. and Fung, L, W-M. (1994) The first human alpha-spectrin structural domain starts with serine. *J. Biol. Chem.* 269:25955-25958.
35. Pieper, R.O., Morgan, S.E. and **Kelley**, M.R. (1994) The role of two conserved amino acids, glutamine 90 and asparagine 137, in O-6-methylguanine methyltransferase stability, activity and substrate specificity. *Carcinogenesis* 15:1895-1902.
36. Rivkees, S.A. and **Kelley**, M.R. (1994) Expression of a multifunctional DNA repair enzyme, apurinic/aprimidinic endonuclease (APE;REF-1) in the suprachiasmatic, supraoptic and paraventricular nuclei. *Brain Research* 666:137-142.
37. Wilson, T.M., Yu-Lee, L-y. and **Kelley**, M.R. (1995) Coordinate gene expression of luteinizing hormone-releasing hormone (LHRH) and the LHRH receptor following prolactin stimulation in the rat Nb2 T cell line: Implications for a role in immunomodulation and cell-cycle gene expression. *Molecular Endocrinology* 9:44-53.
38. Carney, J.P., McKnight, C., Van Epps, S. and **Kelley**, M.R. (1995) Random rapid amplification of cDNA ends (RRACE) allows for cloning of multiple novel human cDNA fragments containing CAG repeats. *Gene* 155:289-292.
39. Halloran, M.M., Tentler, J.J., Emanuele, N.V., **Kelley**, M.R. and Emanuele, M.A. (1995) Further characterization of the impact of ethanol on  $\beta$ -LH: Alterations in polyribosome association of  $\beta$ -LH mRNA.

*Endocrine* 3:469-473.

40. Uddin, S., Kirsteins, L., LaPaglia, N., Emanuele, N.V., Lawrence, A.M., **Kelley**, M.R. and Emanuele, M.A. (1995) Failure of ethanol metabolites to alter gonadotropin secretion or luteinizing hormone synthesis *in vitro*. *Endo. Res.* 21:653-670.
41. Wilson, T.M., Ewel, A., Duguid, J.R., Eble, J.N., Lescoe, M.K., Fishel, R. and **Kelley**, M.R. (1995) Differential cellular expression of the human MSH2 repair enzyme in small and large intestine. *Cancer Res.* 55:5146-5150.
42. Huq, I., Wilson, T.M., **Kelley**, M.R. and Deutsch, W.A. (1995) Expression in *Escherichia coli* of a rat cDNA encoding an apurinic/aprimidinic endonuclease. *Mutation Research* 337:191-199.
43. Duguid, J.R., Eble, J., Wilson, T.M. and **Kelley**, M.R. (1995) Differential cellular and subcellular expression of the human multifunctional apurinic/aprimidinic endonuclease (APE/ref-1) DNA base excision repair enzyme. *Cancer Research*, 55:6097-6102.
44. Maze, R., Carney, J.P., **Kelley**, M.R., Glassner, B., Samson, L. and Williams, D.A. (1996) Increased DNA alkylation repair via bone marrow stem cell transduction rescues mice from the toxic effects of a chemotherapeutic alkylating agent. *Proc. Natl. Acad. Sci., U.S.A.*, 93:206-210.
45. Uddin, S., Wilson, T.M., Emanuele, M.A., **Kelley**, M.R. and Emanuele, N.V. (1996) Ethanol induced alterations in the posttranslational processing and secretion but not the transcription of LHRH *in vitro*. *Alcoholism: Clin. Exp. Res.* 20:556-560.
46. Emanuele, N.V., Jurgens, J., LaPaglia, N., Williams, D.W. and **Kelley**, M.R. (1996) The effect of castration on steady state levels of luteinizing hormone-releasing hormone (LHRH) mRNA and proLHRH processing: Time course study utilizing semi-quantitative reverse transcription/polymerase chain reaction. *J. Endocrin.* 148:509-515.
47. Wilson, T.M., Rivkees, S.A, Deutsch, W.A. and **Kelley**, M.R. (1996) Differential expression of the apurinic/aprimidinic (APE/ref-1) multifunctional DNA base excision repair gene during fetal development and in adult rat brain and testis. *Mutation Research* 362:237-248.
48. Yacoub, A., Augeri, L., **Kelley**, M.R., Doetsch, P.W., and Deutsch, W.A. (1996) Drosophila ribosomal protein S3 contains 8-oxoguanine and abasic site DNA repair activities. *EMBO J.* 9:2306-2312.
49. Yacoub, A., **Kelley**, M.R. and Deutsch, W.A. (1996) *Drosophila* ribosomal protein PO contains apurinic/aprimidinic endonuclease activity. *Nucl. Acids Res.* 24:4298-4303.
50. Zhou, F.C, Xu, Y., Bledsoe, S., Lin, R., and **Kelley**, M.R. (1996) Serotonin Transporter Antibodies: Production, Characterization, and Localization in the Brain. *Mol. Brain Research* 43:267-278.
51. Maze, R., Kapur, R., **Kelley**, M.R., Hansen, W.K., Oh, S.Y. and Williams, D.A. (1997) Reversal of 1,3-Bis(2-chloroethyl)-1-nitrosourea-induced severe immunodeficiency by transduction of murine long-lived hemopoietic progenitor cells using O6-methylguanine DNA methyltransferase complementary DNA. *J. Immunology* 158:1006-1013.
52. Tentler, J.J., LaPaglia, N., Steiner, J., Williams, D., Castelli, M., **Kelley**, M.R., Emanuele, N.V. and Emanuele, M.A. (1997) Ethanol, growth hormone and testosterone in peripubertal rats. *J. Endocrinol.* 152: 477-487.
53. Chun, K.T., Edenberg, H.J., **Kelley**, M.R. and Goebel, M.G. (1997) Rapid amplification of uncharacterized

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112. Sullivan, W.J., Georgiadis, M.M. and **Kelley**, M.R. A new way to kill apicomplexan parasites: Monkey around with APEs. Molecular Society of Parasitology, MBL, Sept 2006.
113. Batuello, C., Lopez, J. Henry, J., Greer, F., **Kelley**, M., and Dynlacht, J.R., Critical Proteins and Pathways Involved in Heat-radiosensitization, presented at the 8th Annual Midwest DNA Repair Symposium, 2006.

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115. Jiang, Y., Guo, C., Vasko, M.R. and **Kelley, M.R.** Role of the DNA repair and redox enzyme Ape1/Ref-1 in neurotoxicity of cisplatin on dorsal root ganglion neurons: Implications for peripheral neuropathy. AACR Annual Meeting, Los Angeles, CA, April 2007.
116. Vasko, M.R., Guo, C., Jiang, Y.L. and **Kelley, M.R.** Enhancing The Expression Of The DNA Repair/Redox Enzyme, Ape1/Ref-1, Reduces Neurotoxicity Induced By Ionizing Radiation: Implications For Decreasing Neurocognitive Dysfunction. American Society of Pediatric Hematology/Oncology annual meeting, Toronto, Canada, May, 2007.
117. Gracias, N., Guo, C., **Kelley, M.R.** and Vasko, M.R. Paclitaxel-induced augmentation of capsaicin-evoked release of CGRP from sensory neurons is attenuated by antioxidants. Neuroscience Society Annual Meeting, 2007.
118. Jiang, A., **Kelley, M.R.**, Gao, H. and Qiao, X. Selective Blocking of APE1/Ref-1 Redox Function by a Novel Compound, APX3330 Inhibits Retinal Angiogenesis *in vitro* and *in vivo*. Association for Research in Vision and Ophthalmology Annual Meeting, 2009.
119. Fishel, M.L., Jiang, Y., Reed, A.M., He, Y., and **Kelley, M.R.** Sensitization of pancreatic cancer cells via inhibition of Ape1, a DNA base excision repair enzyme. American Association for Cancer Research Annual Meeting, Denver, CO 2009.
120. Fishel, M.L., Reed, A.M., Luo, M., and **Kelley, M.R.** Inhibition of APE1/Ref-1 Redox Function as an Anti-Angiogenic Molecular Target. American Association for Cancer Research Annual Meeting, Denver, CO 2009.
121. Gracias, N., Guo, C., **Kelley, M.R.**, Vasko, M.R. The antimiotic-anticancer drugs, paclitaxel and vincristine decrease capsaicin-evoked release of calcitonin gene-related peptide and TRPV1 expression in sensory neurons in culture. Society for Neuroscience Annual Meeting, Chicago, IL 2009.
122. Fishel ML, **Kelley, MR.** Sensitization of Pancreatic Cancer Cells via Inhibition of APE1/Ref-1, a DNA Base Excision Repair and Redox Signaling Protein: Novel target and small molecule development. NCI Translational Science Meeting, Vienna, VA 2009.
123. Su, D., Delaplane, S., Huang, R.Y.C., Zhang, H., Luo, M., **Kelley, M.R.**, Georgiadis, M., Gross, M.L. Interaction of hApe1 and its Redox-Activity Inhibitor E3330 by HDX, NEM Labeling, and Mass Spectrometry. 58<sup>th</sup> ASMS Conference on Mass Spectrometry, Salt Lake City, UT May 23 - 27, 2010.
124. Bapat A, Glass LS, Luo M, Fishel ML, Reed A, Long EC, Georgiadis MM, **Kelley MR.** Novel small molecule inhibitor of the endonuclease function of the APE1 DNA repair and redox signaling enzyme blocks proliferation and reduces viability of glioblastoma cells. AACR 101<sup>st</sup> Annual Meeting, Washington DC, April 17 – 21, 2010.
125. Meng H, Guo C, Gracias N, Lui N, Xu X-M, **Kelley MR,** Vasko MR. Systemic injection of cisplatin impairs cognitive function in rats. Abstract Viewer/Itinerary Planner. San Diego, CA.: Society for Neuroscience, 509.7, MMM48, Online, 2010.
126. Meng H, Guo C, Vasko M, **Kelley, MR.** Learning and Memory Systems: Genetic and Pharmacological Manipulation. Neuroscience 2010 Annual Meeting, San Diego, CA, Nov 13-17, 2010.

127. Codarin E, Cesaratto L, Caragnano A, Bellentani S, **Kelley MR**, Tiribelli C, Tell G. Specific Inhibition of the Redox Activity of the Multifunctional APE1/Ref-1 Protein by E3330 Blocks TNF- $\alpha$  Induced Activation of IL-8 Production in Hepatic Cell Lines. European Association for the Study of the Liver Conference International Congress, Berlin, March 30, 2011.
128. Fishel ML, Jiang Y, Luo M, Reed AM, He Y, Cardoso AM, **Kelley MR**. C173/C173 - APE1/Ref-1-STAT3 dual-targeting synergize to effectively inhibit pancreatic cancer cell survival. Molecular Targets and Cancer Therapeutics, San Francisco, CA, November 12 – 16, 2011.
129. Ding J, Luo M, Czader M, Reese R, Batra S, Carlesso N, Fishel N, **Kelley MR**, Cardoso AA. Ref-1 is master regulator of leukemia T-cell survival, and a new therapeutic target for relapsed childhood acute lymphoblastic leukemia. Oral Presentation at the 2012 Midwest Blood Club, Indianapolis, IN, March 15 – 16, 2012.
130. Kumar K, Jackson J, **Kelley MR**, Ivan M, and Sandusky G. Significant *In vivo* activity of an APE1/Ref-1 redox inhibitor, E3330, alone and in combination with Avastin (Bevacizumab) in a glioblastoma mouse model analyzed by Aperio whole slide digital imaging and quantitative immunohistochemistry. American Association for Cancer Research Annual Meeting, Chicago, IL, March 31 – April 4, 2012.
131. Qiao X, Li Y, Zhou T, Liu X, **Kelley MR**, Edwards P, and Gao H. Selective Blocking of APE1/Ref-1 Redox Function by a Novel Compound, APX3330 Inhibits Choroidal Endothelial Cells *in vitro* and Choroidal Neovascularization *in vivo*. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL, May 6 – 10, 2012.
132. Li Y, Liu X, Zhou T, **Kelley MR**, Edwards P, Gao H, Qiao X. Regulation of Retinal Vascular Permeability by Inhibition of APE1/Ref-1 Redox Activity with APX3330. Association for Research in Vision and Ophthalmology Annual Meeting, Fort Lauderdale, FL, May 6 – 10, 2012.
133. Unthank JL, **Kelley MR**, Fishel M, Barrere C, Miller S. Redox Signaling Inhibition and Collateral Growth/ MCS President's Symposium II: Rapid Fire Discussion of Novel Trends at Experimental Biology Boston, MA, April 20, 2013
134. Qiao X, Li Y, Liu X, Zhou T, **Kelley MR**, Edwards P, Gao H. Transcriptional regulation of NF- $\kappa$ B and STAT3 in retinal endothelial cells by inhibition of the APE1/Ref-1 redox activity. Association for Research in Vision and Ophthalmology Annual Meeting, Seattle, WA May 05 – 09, 2013.
135. Yan T, Chopp M, Zacharek A, Ning R, Qiao X, **Kelley MR**, Roberts C, Chen J. Neurorestorative therapy for stroke in type one diabetic rats using APX3330. BRAIN 13, Shanghai, China May 20 – 23, 2013.
136. Miller SJ, Wenning MJ, Bills RG, Sliva P, Labarrere CA, **Kelley MR**, Fishel ML, Unthank JL. Impact of redox signaling inhibition on collateral growth in young, healthy rats. Experimental Biology 2013, Boston, MA April 20-24, 2013. Published in *FASEB J.* 2013, 27:685.2.
137. Cardoso A, Wikel JH, Ding J, Reed A, Luo M, **Kelley MR**. First-in-class Ref-1 redox inhibitors for the multi-pathway targeting of survival signals for relapsed childhood acute lymphoblastic leukemia. American Association for Cancer Research, Pediatric Cancer at the Crossroads: Translating Discovery into Improved Outcomes meeting, San Diego, CA November 3-6, 2013.
138. Harlan SE, Fishel ML, Xie J, Gu D, McCarthy BP, Riley AA, Sinn AL, Silver JM, Peterman K, **Kelley MR**, Hanenberg H, Korc M, Pollok KE, Territo PR. Longitudinal Bioluminescence Imaging of Primary versus Abdominal Metastatic Tumor Growth in Orthotopic Pancreatic Tumor Models in NOD/SCID<sup>Y(-/-)</sup> Mice. American Association for Cancer Research, San Diego, CA, April 5-9, 2014.

139. Fishel ML, Cheng H, Kamocka MM, Hanenberg H, Zyromski N, Korc M, **Kelley MR**. Redox factor 1 (Ref-1) signaling in the interaction between pancreatic tumor cells and cancer-associated fibroblasts. American Association for Cancer Research Special Conference Pancreatic Cancer: Innovations in Research and Treatment, New Orleans, LA, May 18-21, 2014.
140. McIlwain D, Fishel M, Wang L, Snider B, Zhang JT, **Kelley M**, Jerde T. APE1/REF-1 Regulates Survivin-Mediated Drug Resistance in Prostate Cancer Cells. Indiana Clinical and Translational Sciences Institute Sixth Annual Meeting. From Academic Centers to Population Health, Indianapolis, IN, September 26, 2014.
141. Fishel ML, Cheng H, Shahda S, **Kelley MR**. APX3330 Drug Development for Clinical Trials Targeting APE1/Ref-1 in Pancreatic Cancer. AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics. Boston, MA, November 5-9, 2015.
142. Logsdon DP, Cheng H, Luo M, Shahda S, Ivan M, Hao Y, Tong Y, Yu Z, Zyromski N, Schipani E, Liu Y, Supuran CT, **Kelley MR**, Fishel ML. Targeting APE1/Ref-1 Results in Inhibition of Hypoxia Signaling Genes. AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics. Boston, MA, November 5-9, 2015.
143. McElyea K, Jacobsen M, Schmidt M, Cheng H, **Kelley MR**, Fishel ML, Sandusky GE. Efficacy Study of APX3330, Ref-1 redox inhibitor and Gemcitabine in a Mouse Pancreatic Ductal Adenocarcinoma Model. American Association for Cancer Research Annual Conference, New Orleans, LA, April 16-20, 2016
144. Fishel ML, Logsdon DP, Supuran CT, Zyromski N, Ivan M, **Kelley MR**, Shah F. Targeting Ref-1/APE1 Pathway Inhibition in Pancreatic Cancer using APX3330 for Clinical Trials. American Association for Cancer Research Annual Conference, New Orleans, LA, April 16-20, 2016
145. Fishel ML, Grimard ML, **Kelley MR**, Rosa DA, Shouksmith A, Tin G, Park J, Gunning PT. Development of STAT3 dual-targeting strategies for the treatment of pancreatic cancer. American Association for Cancer Research Annual Conference, New Orleans, LA, April 16-20, 2016
146. **Kelley MR**, Shahda S, O'Neil B, Pearce H, Walling J. Clinical Trials Targeting APE1/Ref-1 in Pancreatic Cancer with APX3330. American Association Cancer Research Special Conference on Pancreatic Cancer: Advances in Science and Clinical Care. Orlando, FL, May 12-15, 2016
147. Logsdon DP, Grimard M, Shahda S, Zyromski N, Schipani E, Carta F, Supuran CT, Korc M, Ivan M, **Kelley MR**, Fishel ML. Regulation of HIF1 $\alpha$  under Hypoxia by APE1/Ref-1 Impacts CA9 Expression: Dual-Targeting in Patient-Derived 3D Pancreatic Cancer Models. American Association Cancer Research Special Conference on Pancreatic Cancer: Advances in Science and Clinical Care. Orlando, FL, May 12-15, 2016
148. Delgado-Calle J, Ebetino FH, Boeckman RK, Kelley MR, Bellido T, Roodman GD. Targeting Notch signaling using a Notch receptor 3 inhibitor and a bone-targeted  $\gamma$ -secretase inhibitor to reduce tumor growth and improve bone disease in multiple myeloma. 2017. *Submitted* to Cancer and Bone Society
149. Shah F, Goossens E, Atallah NM, **Kelley MR**, Fishel ML. Single-cell RNA sequencing and Reverse phase protein arrays identify novel roles and interacting partners for APE1 in Pancreatic Ductal Adenocarcinoma Microenvironment. 2017. Midwest Tumor Microenvironment Conference, April 24-26, 2017.
150. Atallah NM, Goossens E, Shah F, **Kelley MR**, Fishel ML. Single-cell RNA sequencing identifies novel roles and interacting partners of APE1 in Pancreatic Ductal Adenocarcinoma Cells. 2017. Intelligent Systems for Molecular Biology Conference, July 21-25, 2017

151. E. G. Atkinson, T. Bellido, G. David Roodman, **M. Kelley**, J. Delgado-Calle. Selective Pharmacological Inhibition of Notch Receptor 3 Signaling Decreases Myeloma Cell Proliferation and Preserves Osteocyte Viability. 2017. American Society for Bone and Mineral Research Annual Conference, September 8-11, 2017
152. Tan, X, Puls TJ, Fishel ML, **Kelley MR**, Whittington CF, Voytik-Harbin SL. A Novel Three-dimensional (3D) Tumor Metastasis Model for High-Throughput Drug Discovery. 2017. Biomedical Engineering Society (BMES) Annual Meeting, Phoenix, AR, October 11-14, 2017
153. Fenil L. Shah, Nadia Atallah, Michelle Grimard, Chunlu Guo, Chi Zhang, Jill Fehrenbacher, **Mark R. Kelley**, Melissa Fishel. Combination therapy in PDAC involving blockade of the APE1/Ref-1 signaling pathway: An investigation into drug synthetic lethality and anti-neuropathy therapeutic approach. 2018. American Association for Cancer Research Annual Meeting, Chicago, IL, April 14-18, 2018. *Cancer Res* July 1, 2018; 78(13); 4802. DOI: 10.1158/1538-7445.AM2018-4802
154. Logsdon D, Shah F, Carta F, Supuran C, Fishel M, **Kelley MR**. APE1/Ref-1 redox signaling regulates HIF1 $\alpha$ -mediated CA9 expression in hypoxic pancreatic cancer cells: Combination treatment in patient-derived pancreatic tumor models. American Association for Cancer Research Annual Meeting, Chicago, IL, April 14-18, 2018. *Cancer Res* July 1 2018 (78) (13 Supplement) 2941; DOI: 10.1158/1538-7445.AM2018-2941
155. Kamakshi Sishtla, Sardar Pasha Sheik Pran Babu, Rania S. Sulaiman, Bomina Park, Melissa L. Fishel, **Mark R. Kelley**, and Timothy W. Corson. Targeting Ocular Neovascularization with Novel APE/Ref-1 Inhibitors. 2018. Experimental Biology Annual Meeting, San Diego, CA, April 21-25, 2018
156. Fenil Shah, Nadia Atallah, Michelle Grimard, Chi Zhang, **Mark R. Kelley**, Melissa L. Fishel. Targeting mitochondrial metabolism in PDAC via blockade of the APE1/Ref-1 signaling cascade: using single-cell RNA sequencing and proteomic analyses to identify novel targets for combination drug therapies. Pancreatic Cancer: Advances in Science and Clinical Care Conference, Boston, MA, Sept. 21-24, 2018
157. **Mark R. Kelley** and Richard Messmann. Novel first-in-class small molecule targeting APE1/Ref-1 to prevent and treat chemotherapy-induced peripheral neuropathy (CIPN). Submitted for Palliative and Supportive Care in Oncology Symposium, San Diego, CA, Nov. 16-17, 2018

## **TEACHING AND SERVICE TO STUDENTS**

### **INTERNS/UNDERGRADUATES**

Hilary White, Indiana University, summer 2001  
Meredith Hass, DePauw University, summer 2002  
Cathy Griffith, Ball State University, summer 2003  
Tiffany Ballard, DePauw University, summer 2004  
Kathryn Hurley, Vanderbilt, summer 2006  
Sarita Tony, IUPUI, summer 2007  
Amanda Meyer, DePauw University, Jan-Aug 2009  
Amy Dreischerf, 2010  
John Zhang, 2011  
Aubrie Carroll, Indiana University, summers 2013, 2014  
Christopher Below, 2015-16

## GRADUATE STUDENTS

### Graduated:

- Dave Grabowski---Graduated June, 1992 (5 years) Mol. & Cell. Biochem., Loyola Univ.
- Schmitt Scholar
  - Professor, St. Mary's of the Woods College, Department of Science and Mathematics, Terre Haute, IN.
- David M. Wilson III----Graduated August, 1993 (4 years)-----Mol. Biol. Program, Loyola Univ.
- Schmitt Scholar, post doctorate in Dr. Bruce Demple's laboratory, Harvard University, Boston, MA.
  - Investigator, Unit of Structure and Function of Base Excision Repair, Laboratory of Molecular Gerontology, NIA, NIH, Baltimore, MD
- Margaret Halloran----Graduated September, 1993 (4 years)-----Mol. & Cell. Biochem., Loyola Univ.
- Awarded first ever NIH predoctoral fellow at Loyola
- Jim Carney-----Graduated October, 1994 (4 years)-----Mol. & Cell. Biochem./Pediatrics, Indiana Univ.
- Senior Research Scientist, Battelle-Edgewood Chemical Biological Center , Aberdeen Proving Ground, MD 21010
- John Tentler----Graduated November, 1994 (4 years)-----Mol. & Cell. Biochem., Loyola Univ.
- Associate Professor, University of Colorado Denver, School of Medicine, Division of Medical Oncology
- Teresa Wilson----Graduated November, 1995 (4 years)-----Mol. Biology Program, Loyola University Medical School and Department of Pediatrics, Indiana University Medical School
- W. Kent Hansen-----Graduated May, 1999 -----MD./Ph.D., Dept. of Biochemistry and Molecular Biology, Indiana University School of Medicine
- Currently Radiologist for Northwest Radiology Network, Indianapolis, IN
- Timothy J. Roth---- Graduated Summer, 2000-----M.S., Dept. of Physiology and Biophysics, Indiana University School of Medicine
- Currently at the Department of Urology, Mayo Clinic, Rochester, MN
- Melissa Limp-Foster Fishel -----Graduated March, 2001-----Ph.D. Dept. of Biochemistry and Molecular Biology, Indiana University Medical School
- Recipient of a DOD breast cancer predoctoral fellowship; March 2000-graduation.
  - Postdoctoral Fellow in the laboratory of Dr. Eileen Dolan, University of Chicago
  - Associate Professor, Research, Department of Pediatrics, IU School of Medicine
- Maria D'Souza ----- Graduated 2002-----M.S. Dept. of Physiology and Biophysics, Indiana University School of Medicine
- Internal Medicine physician at Metro Health Medical Center Cleveland, OH
- Mikael Rinne----- Graduated 2003, ----MD/Ph.D. Dept. of Biochemistry and Molecular Biology, Indiana University School of Medicine
- Recipient of a Susan G. Komen predoctoral fellowship; Jan 2001 (declined)
  - Recipient of a DOD breast cancer predoctoral fellowship; May 2002- 2003
  - Neuro-Oncologist, Dana-Farber Institute, Harvard Medical School

Tia Harvey---- Graduated 2008, ---Indiana University School of Medicine

Aditi Bapat ---- Graduated 2009 --- Dept of Biochemistry and Molecular Biology, IU School of Medicine  
Clinical Translational Research Division, Translational Genomics Research Institute, Scottsdale, AZ

Derek Logsdon – Graduated 2017 – PhD Dept of Pharmacology & Toxicology, IU School of Medicine

- Associate Consultant – Global Scientific Communication at Eli Lilly and Company, Indianapolis, IN

Jack McGeown – Ulster Master Science student, 2017 – current

## **POST-DOCTORATES**

Dr. Dennis Derda -- postdoctorate, 1988 -1991

Dr. Shahab Uddin -- postdoctorate, 1991 - 1993.

- Research Asst. Professor, Dept. of Oncology, University of Chicago Medical School
- Currently a Senior Scientist, King Faisal Specialist Hospital & Research Center, Riyadh Saudi Arabia

Dr. Yi Xu -- postdoctorate, 1994 -1999

- NIH postdoctoral fellow, NCCR NIH postdoctorate, 1996--1999 current
- Currently a Research Associate, Wayne State University, Detroit, MI

Dr. Meihua Luo – postdoctorate, 2000 – 2005

- Currently Research Associate, Wells Center for Pediatric Research, IU School of Medicine

Dr. Dong Wang – postdoctorate, 2001 – 2003

- Director and Professor, Cancer Center, Daping Hospital, Third Military Medical U., P.R. China

Dr. David Caldwell – postdoctorate, 2001 – 2004

- DWA Healthcare Communications Group, Carmel, IN

Dr. Yanlin Jiang – postdoctorate, 2004 – 2013

- Research Associate, Dr. Teresa Zimmers laboratory, IUSM Dept. of surgery

Dr. Hongdi Meng – postdoctorate, 2009 – 2011

- Research Associate, Dr. Jill Fernbacher, IUSM Dept of Pharmacology and Toxicology

Dr. Huiwen Cheng – post doctorate, 2013- 2014

Dr. Fenil Shah – post doctorate, 2014 – current

David McIlwain – Graduated 2017 – PhD Dept. Pharmacology & Toxicology, IU School of Medicine

- Associate Consultant – Global Scientific Communication at Eli Lilly and Company, Indianapolis, IN

## **FELLOWS**

Dr. Ted Kremer -- Pulmonary Fellow, 2002- 2004.

- Pulmonary Pediatrics, University of Massachusetts Memorial Medical Center, Worcester, MA

Dr. Carlo Vascotto – Fulbright Scholar Fellowship, 2010

- Assistant Professor, Molecular Biology Section, University of Udine, Italy

Dr. Safi Shahda – Hematology / Oncology Fellow, 2011 – 2012

### **DISSERTATION COMMITTEES**

**1988, 6; 1989, 9; 1990, 14; 1991, 18; 1992, 16; 1993, 11; 1994, 7; 1995, 6; 1996, 5; 1997, 5; 1998, 4; 1999, 4; 2000, 4; 2001, 3; 2002, 2; 2003, 2; 2004, 4; 2005, 1; 2006, 1; 2007, 3; 2008, 3; 2009, 5; 2010, 2; 2011, 1; 2012, 2; 2013, 3; 2014, 3; 2015, 3; 2016, 3; 2017, 3.**

### **TEACHING-previous**

**Fundamental Molecular Biology G865** ---- Three lectures on DNA repair. Department of Biochemistry and Molecular Biology; graduate students.

**Advanced DNA Repair G837**---- Three lectures/discussion sections on DNA base excision repair. Department of Microbiology and Immunology; graduate students

**Biochemical and Molecular Gene Expression Techniques**---- 3 hours per month for 4 months. Department of Pediatrics, Pediatric Endocrinology, Wells Center for Pediatric Research.

**Medical Biochemistry Laboratory B503**---- Problem based learning, 4 hrs. per week for 10 weeks for a total of 40 contact hours. Department of Biochemistry and Molecular Biology.

**Medical Biochemistry B800**----- Two lectures on DNA replication, repair and carcinogenesis. Department of Biochemistry and Molecular Biology; medical students.

### **SERVICE ACTIVITIES**

#### **INSTITUTIONAL SERVICE**

Cancer Center Member	1994 - present
• Experimental Developmental Therapeutics	
Associate Director, Wells Center for Pediatric Research	1995 – present
Dept of Pediatrics Wells Center Internal Advisory Committee	1995 -- present
Dept of Pediatrics Wells Center Faculty Mentor Panel	2000 -- present
Associate Director of Basic Science Research, IU Cancer Center	2005 -- present
IUSOM Transgenic and Knockout Mouse Core Advisory Committee, Member	2005 – present
IUSOM Flow Cytometry Advisory Committee, Member	2006 – present
IUSOM Clinical Pharmacology Analytical Advisory Committee, Member	2006 -- present
Molecular Medicine in Action for Teaching Professionals (MMIAII)	2009 – present
Centers of Excellence in Molecular Hematology Advisory Committee	2010 – present
IUSCC Therapeutic Validation Core Advisory Committee, Member	2010 – present
Molecular Medicine in Action (MMIA), Speaker	2010 - present
IU School of Medicine Scientific Advisory Board member	2010 - present
IUSCC ACS Institutional Grant Coordinator, PI	2011 – present
Mentoring Committee, Dr. Tao Lu, Department of Pharmacology & Toxicology	2011 - present

Center for Personalized Medicine, Scientific Advisory Board member	2011 – present
Associate Director of the IU Pancreatic Cancer Signature Center	2011 - present
Mentoring Committee: Dr. Rajesh Khanna, Department of Pharmacology and Toxicology	2012 – present
IUSCC, Equipment Committee, Chair	2012 - present
IUSCC Center for Chemical Biology and Drug Development, Co-chair	2012 – present
Concepts to Clinic Project Development Team	2013 – present
Member, Search Committee for co-Director of the Harper Cancer Research Institute	2013 - present
IUSM, Cooperative Hematology Specialized Core Center, U54 Internal Advisory Committee, Member	2014 - present
PPG Advisory Committee Member; Roodman and Guise PPG on bone metastasis	2014 -- present
PPG Advisory Committee Member; Zimmers PPG on cachexia	2015 – present
Mentoring Committee: Dr. Tim Lautenschlaeger, Department of Radiation Oncology	2017 - present
Mentoring Committee: Dr. Jesus Delgado-Calle, Department of Anatomy and Cell Biology	2017 – present
Mentoring Committee: Dr. Lei Li, Department of Chemistry and Chemical Biology	2017 – present

### **Completed**

Cancer Biology Education and Training Committee	1994 -- 1999
Cancer Biology Education and Training Committee: Subcommittee on implementation of a training program	1994 -- 1999
Dept. of Pediatrics Technology Transfer Liaison	1996 -- 2012
Pediatric/Adult Scientific Review Committee	1996 -- 2011
Bowman Award Committee member	1998
Institutional Biosafety Committee	1995 -- 2002
Chairman, Institutional Biosafety Committee	1999 – 2002
Alternate member of IBC	2002 -- 2012
Co-leader Pediatric Oncology Group; IU Cancer Center	2000 -- 2001
American Cancer Society IU Grant Committee, Member	2000 -- 2006
Search and Screen Committee for Director of Neuroscience Institute, Member	2001 -- 2002
Biomedical Research Committee, Member	2001 – 2003
Search and Screen Committee for Chairman of the Dept of Pharmacology and Toxicology, Member	2001 -- 2002
NIH Chemical Pathology Study Section Member (now called Cancer Etiology)	2002 - 2006
Molecular Medicine in Action (MMIA) Co-leader	2002 -- 2009
Director	2002 – 2009
Co-leader Experimental Therapeutics Group; IU Cancer Center	2002 -- 2006
Epidemiology Search Committee, Member	2002 – 2004
IUPUI Research Affairs Standing Committee, Member	2003 – 2005
IUPUI Internal Grants Proposal Review Committee (IGPRC)	2003 -- 2005
"Cancer" target team of the Central Indiana Life Sciences Initiative (CILSI) (Chair; Gary Nicholson, Oncology Business Director Eli Lilly Co, Co-Chairs, Steve Williams IUCC and Rick Borch, Purdue CC)	2003 -- 2004
IUSOM Core Working Group, Member	2003 -- 2004
Asst Research Prof Advisory Committee; Dr. Karen Pollok	2003 -- 2005

Paul & Carole Stark Neurosciences Research Institute, Member	2003 – 2007
Chair, Pediatrics Hem/Onc Faculty Search Committee	2003 -- 2011
Mentoring committee; Dr. Tony Firulli	2004 – 2009
R4 Wells Expansion Planning Committee	2004 -- 2007
Service Activities Task Force, Member and Chair	2004
NIH Cancer Etiology Study Section Chair	2004 -- 2006
Asst Professor of Pediatrics Advisory Committee; Dr. Karen Pollok	2005 -- 2012
IUSOM Zebrafish Core Advisory Committee, Member	2005 -- 2007
IFC Research Affairs Committee	2006 -- 2010
IUSOM Proteomics Core Advisory Committee, Member	2006 – 2008
IUSOM Core Oversight Committee, Member	2006 – 2010
IUSOM Chemical Genomics Advisory Committee, Chair	2007 – 2009
Mentoring Committee; Dr. Sean Mooney, Bioinformatics	2007 -- 2009
Mentoring committee: Kai-Ming Chou	2007—2010
Mentoring committee; Lindsey Mayo	2008 - 2013
IUSCC Search Committee for New Director	2008 – 2009
Investigative Toxicology Core Advisory Committee	2009 – 2011
CTSI Core Oversight Committee	2009 – 2011
IUSOM Radiation Oncology Promotion and Tenure Committee, Chair	2009 – 2010
OSU-IU Center for Cancer Systems Biology Advisory Board	2009 - 2012
IUSOM Hematology / Oncology Chief Search Committee	2010
Myles Brand Chair Search and Screen Committee	2010 - 2012
IUSCC Lung Cancer Targets and Therapy P01 Steering Committee	2010 – 2012
IUSOM Director of Computational Biology and Bioinformatics Search and Screen Committee, Member	2010 - 2012
Breast Cancer Faculty Search and Screen Committee	2011 – 2012
Epidemiology Search Committee	2011 – 2012
IUSOM Chemical Biology Faculty Search Committee	2012
Efroymsen Chair Search	2012 – 2013
Research Support Funds Grant Review Committee, Member	2005 -- 2013
IUSOM Biological Microscopy Advisory Committee, Member	2005 – 2014

## UNIVERSITY SERVICE

Information Resources and Educational Technology Advisory Committee, Member	2002 -- 2010
Salary Grievance Committee, Member	2003
IURTC Board of Directors member and Executive Committee Member	2008 -- 2010
Post Audit Review Taskforce	2011 – 2012

## COMMUNITY SERVICE

Member of the DePauw University Science and Technology Visiting Committee	1999 -- 2001
Member of the DePauw University Science and Technology Board of Advisors	2001 – 2005
Perry Meridian High School Class Tour and presentation, April 27, 2000	
High School Student Class Discussion of Cancer; March 5, 2001	
Presentation for the IUPUI high school student recruitment day; April 27, 2001	
Presentation and tour for High school students; March 22, 2002	
Presentation and tour for high school students; March 26, 2002	
Presentation for the IUPUI high school student recruitment day; April 18, 2002	
Tour and presentation for Diane McKnight senior high school students; Oct. 16, 2003	
Tour of IUSM and Wells Center for MBA students from the Kelley and Krannert schools/Purdue & IU; Oct 22, 2004	

Facility tour and roundtable science discussion for Crawfordsville High School Students, Oct 30, 2008  
Tour of Wells Center for High School Teachers as part of a national conference; February 6, 2009  
Facility tour and roundtable science discussion for Crawfordsville High School Students, Nov 2, 2009  
RCF / Wells Center Event presentation for donors, April 27, 2010  
RCF / Wells Center Event presentation for major donor, July 22, 2010  
RCF / Wells Center presentation to RCF officers, March 8, 2011  
RCF / Wells Center presentation to Jeff Gordon Foundation, July 28, 2011  
RCF/ Wells Center presentation with Jeff Gordon Foundation, July 27, 2012  
RCF A Night of Hope presentation and reception, Fort Wayne, IN, April 25, 2013  
Huntington Chamber of Commerce luncheon presentation, Roanoke, IN, April 25, 2013  
RCF / Wells Center Research presentation for Senator Joe Donnelly, Riley Hospital, Sept. 5, 2013  
American Cancer Society Cancer Action Network presentation for major donors, Sept 7, 2013  
RCF / Wells Center Event with Cook Medical Leadership, March 12, 2014  
RCF IU Dance Marathon committee lunch presentation, April 11, 2014  
ACS PanCan Event presentation for major donors, September 6, 2014  
RCF / Kids Caring Sharing (KCS) Board presentation, September 22, 2014  
RCF / Wells Center presentation for Purdue Dance Marathon Education Night, November 5, 2014  
RCF / Wells Center presentation for Purdue Dance Marathon, November 22, 2014  
RCF / Wells Center presentation for Tom and Julie Wood Family Foundation meeting, December 10, 2014  
RCF / Wells Center presentation for Fraternal Order of Eagles "Eagle Riders meeting, January 17, 2015  
RCF / Wells Center presentation for IU Dance Marathon alumni and advisors meeting, January 24, 2015  
RCF / Wells Center presentation for Molecular Medicine In Action symposium, March 8, 2015  
American Cancer Society Tom Wood Gala, May 14, 2015  
Purdue University Pillars of Excellence in the Life Science grant reviewer, July 30, 2015  
RCF / Wells Center presentation for the Riley Society Advisory Committee meeting, August 6, 2015  
Research Gives Hope Riley Society Reception presentation, December 9, 2015  
RCF Purdue Dance Marathon committee meeting presentation, April 5, 2016  
IUSCC Chuck Strong Event presentation, April 21, 2016  
ACS Relay for Life Just Imagine interview, April 21, 2016  
ACS Relay for Life Volunteer discussion, May 9, 2016  
IUSCC Corporate Leadership Breakfast presentation, June 30, 2016  
IUSCC Leadership Retreat presentation, August 20, 2016  
IUSCC Chuckstrong Sponsor Luncheon presentation, August 25, 2016  
RCF / Wells Center St. Baldrick's Foundation Luncheon and Lab Tour, September 29, 2016  
RCF/ Wells Center Kids Caring Sharing Board presentation, October 14, 2016  
IUSCC Interview with Debby Knox (CBS4), October 24, 2016  
RCF/ Wells Center Purdue University Dance Marathon Executive Board Lab Tour, January 14, 2017  
RCF/ Wells Center Riley U: Research/Clinical Updates presentation, March 14, 2017  
IUSCC Interview with Beth Vaughn (WRTV6), September 7, 2017  
RCF/ Wells Center Donor Night, October 12, 2017  
RCF/DePauw University Dance Marathon, November 18, 2017

## **NATIONAL & INTERNATIONAL REVIEW COMMITTEES**

Site visit member for a National Cancer Institute (NCI) site visit concerning a program project studying colon cancer treatment. Oct. 22-24, 1995, Case Western Reserve University, Cleveland, OH  
Site visit member for a National Cancer Institute (NCI) reverse-site visit, Washington, D.C. Oct. 20-21, 1996.  
National VA Medical Grant Reviewer – Sept. 1996.  
Univ. of Massachusetts, Worcester, MA External Grant Reviewer – Sept. 1996.  
Site visit member for a General Clinical Research Center, Cornell University Medical School, New York, NY March 25-27, 1997  
External Grant Reviewer, NIEHS Center, Univ. of Texas Medical School, Galveston, TX.  
Site visit member for a General Clinical Research Center, Cornell University Medical School, New York, NY

March 23-25, 1998  
1998 Breast Cancer Research Program Grant Reviewer, United States Army Medical Research and Material Command, Norfolk, VA September 26-28, 1998  
NIH Radiation Study Section; Ad hoc reviewer, Oct. 20-22, 1999  
National VA Medical Grant Reviewer – Jan., 2000.  
External advisor, PPG grant; “Molecular Origin of Cancer: Catechol Estrogen-3,4-Quinones”, Eppley Institute for Research in Cancer, University of Nebraska Cancer Center, Omaha, Nebraska -- 2000 -2005.  
National VA Medical Grant Reviewer – Feb., 2001.  
Pathology B Study Ad hoc Section Reviewer – March, 2001  
Chemical Pathology Ad hoc Study Section Reviewer—June, 2001  
Chemical Pathology Study Section Reviewer – February, 2002  
Chairperson, Center for Scientific Review Special Emphasis Panel – April 04, 2002.  
External reviewer for the Molecular & Cellular Medicine Board Review of the MRC Radiation and Genome Stability Unit (Director: Dr. Dudley Goodhead), Oxford, UK. – April 8, 2002.  
Center for Scientific Review Special Emphasis Panel – July 23, 2002.  
National Cancer Institute Special Emphasis Panel; Prevention Research and Epidemiology, March 18-20, 2003  
AIRC (Associazione Italiana per la Ricerca sul Cancro) grant reviewer; National grant reviews for Italian bioscience; March 2003.  
National Cancer Institute Special Emphasis Panel; Prevention Research and Epidemiology, July 28-30, 2003  
Chemical Pathology Study Section Member -- July 1, 2002 -- 2003  
Cancer Etiology Study Section Member – July 1, 2003 – 2006  
Cancer Etiology Study Section Chairperson – July 1, 2004 – 2006  
ZRG1 ONC-C (02) Special Emphasis Panel, chairperson – March 9, 2005  
ZRG1 ONC Special Emphasis Panel – July 21, 2004  
Quinquennial Review of Dr. Tom Lindahl, Cancer Research UK, London Research Institute – Oct, 2005  
Cancer Research-UK Clinical Research Training fellowship applications – April, 2006  
Future Proposals for the Medical Research Council (MRC) Radiation and Genome Stability Unit (RAGSU)- May 2006  
Cancer Etiology Study Section – February 2007.  
External reviewer for OHSU CROET (Center for Research on Occupational and Environmental Toxicology) – September 19-21, 2007  
NCI cancer center site visit; Minnesota Cancer Center; June 18-20, 2008  
NCI Parent Committee; August 7-8, 2008.  
NCI review panel for T32 training grant and K99/R00 career development award mechanisms; Sept. 29-Oct.1, 2008  
NCI review panel for EDT Competing Revision Grants; August 20, 2009  
NCI Molecular Oncology PO1 Grant Review Session, June 3 – 5, 2009  
NIH NCI-F Review Meeting, October 4 – 6, 2009  
NIH Special Emphasis Panel Grant Review, October 29, 2009.  
NCI Discovery and Development, Program Project Grant reviews, Feb 2-3, 2010.  
NIH R01 Grant Review Committee, Chair, May 17, 2010  
NCI Initial Review Group, Subcommittee F Manpower and Training, July 1, 2010 – June 30, 2013.  
NCI Drug Discovery and Imaging Program Project Review, Jan 25 – 26, 2011.  
Health Research Board (Ireland) review of Health Research Awards, January 2011.  
Training & Career Development Board, Career Establishment Award in Cancer Research (UK) Reviewer, January 2011.  
NCI-F Grant Review Committee, February 22-23, Reviewer, 2011  
NCI-F Grant Review Committee, June 27-29, Reviewer, 2011  
NCI-F Grant Review Special Emphasis Panel (Training Grants I), Chair, November 5, 2012  
NCI-F Grant Review Special Emphasis Panel (Training Grants II), Chair, November 5, 2012  
NCI-F Grant Review Special Emphasis Panel: Cancer Health Disparities/Diversity in Basic Cancer Research, November 12 – 13, 2012  
NCI cancer center site visit; Einstein Cancer Center; January 9-11, 2013

NCI-F Grant Review Special Emphasis Panel: Cancer Health Disparities/Diversity in Basic Cancer Research, March 18-19, 2013

NCI cancer center site visit; Masonic Cancer Center, MN; June 11-13, 2013

NCI cancer center site visit; St Jude Children Cancer Center, June 18-20, 2013

NCI Grant Review Special Emphasis Panel –R33 (RFA-CA-13-002), July 17, 2013

NCI cancer center site visit; UC San Diego Moores Cancer Center, CA; October 29-31, 2013

NCI-R(55) Cancer Health Disparities/Diversity in Basic Cancer Research Study Section – Member, November 18, 2013

NCI Omnibus Initiative Review Committee, March 19-20, 2014

External Advisory Board member, P01 grant, “How to enhance the RBE of particle radiotherapy”. Winship Cancer Institute of Emory University, Atlanta, Georgia, 2014 – current

NCI P01 Special Emphasis Panel III, October 2-3, 2014.

NCI R21/R03 Omnibus Study Section, November 11-12, 2014

NIH Cancer Health Disparities/Diversity in Basic Cancer Research Study Section - Member, December 8-9, 2014

NCI R21/R03 Omnibus Study Section, March 16-17, 2015

NIH Cancer Health Disparities/Diversity in Basic Cancer Research Study Section - Member, April 13-14, 2015

NIH/NCI Program Project (P01) Special Emphasis Panel, June 8-10, 2015

NIH/NCI Special Emphasis Panel/Scientific Review Group, November 12-13, 2015

NIH/NCI Special Emphasis Panel/Scientific Review Group- B, November 12-13, 2015

Florida Department of Health’s Biomedical Research Programs grant reviewer, December 16, 2015

NIH/NCI Chemo/Dietary Prevention Study Section – Member, February 25, 2016

NIH/NCI R21/R03 Cancer Drug Development, Omnibus SEP-12, March 15, 2016

NIH F31 Workforce Diversity Predoctoral Fellowship Study Section OBT-A, April 5, 2016

NIH F31 Workforce Diversity Predoctoral Fellowship Study Section OBT-J, April 5, 2016

NIH SRO Cancer Health Disparity/Workforce Diversity Review Group, April 11-12, 2016

NIH BMCT Study Section, June 9-10, 2016

NIH R15 Special Emphasis Panel Review Study Section ZRG1 OTC-A (80), July 22, 2016

NIH R15 Special Emphasis Panel Review Study Section ZRG1 OTC-A (80), November 30, 2016

NIH/NCI CDP Panel Review Study Section, February 23-24, 2017

NIH/NCI Provocative Questions R01 and R21 Grant Review, Co-Chair, March 6, 2017

NIH/CSR R15 Special Emphasis Panel Review Study Section ZRG1 OTC-A (80), July 11, 2017

NIH/CSR Basic Mechanisms of Cancer Therapeutics (BMCT) Study Section, September 18-19, 2017 (Permanent member of BMCT: 2017 – 2019)

NIH/CSR Basic Mechanisms of Cancer Therapeutics (BMCT) Study Section, February 5-6, 2018

NIH/CSR Basic Mechanisms of Cancer Therapeutics (BMCT) Study Section, June 11-12, 2018