# **Jian Yu, Ph.D**

# **PERSONAL INFORMATION:**

Work address:UPMC Hillman Cancer Center

Research Pavilion Suite 2.26h

5117 Centre Ave, Pittsburgh, PA 15213

Phone: (412)-623-7786 (office)

(412)-623-3255 (lab)

Fax: (412)-623-7778

Email: [yuj2@upmc.edu](mailto:yuj2@msx.upmc.edu)

Webpage: <http://path.upmc.edu/personnel/Faculty/YuJ.htm>

# Home address:5827 Phillips Ave,

Pittsburgh, PA 15217

Phone: 412-421-6950

# **EDUCATION:**

1987-1991 Bachelor of Science in Chemistry

Sichuan University, Chengdu, Sichuan, P.R. China

1995-2000 Doctor of Philosophy in Human Genetics and Molecular Biology

The Johns Hopkins University, Baltimore, MD (Degree conferral in May 2001)

# **PROFESSIONAL EXPERIENCE:**

2015-present Professor of Pathology (Tenured)

Professor of Radiation Oncology (Secondary appointment)

University of Pittsburgh School of Medicine, Pittsburgh, PA

Cell death mechanisms in colon cancer and intestinal stem cells

2012-2017 Visiting Professor (honorary), The 3rd Military Medical University, Daping Hospital, Chongqing, P.R. China

Cancer and stem cell biology

2011-2015 Associate Professor of Pathology (Tenured)

Associate Professor of Radiation Oncology (Secondary appointment)

University of Pittsburgh School of Medicine, Pittsburgh, PA

Cell death mechanisms in cancer and intestinal stem cells

2002-2011 Assistant Professor of Pathology

University of Pittsburgh School of Medicine, Pittsburgh, PA

Role and regulation of apoptosis in cancer biology and therapy

2000-2002 Postdoctoral Fellow

The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins, the Johns Hopkins University School of Medicine, Baltimore, MD

PUMA-mediated apoptosis in normal development and cancer using mouse and somatic knockout models

1997-1998 Teaching Assistant in Undergraduate Biochemistry Course (lab and lecture)

Teaching Assistant in Undergraduate Cell Biology Course (lab and lecture)

Johns Hopkins University, Baltimore, MD

1995-2000 Ph.D. Thesis Research

Graduate Training Program in Human Genetics and Molecular Biology

The Johns Hopkins University, Baltimore, MD

p53-regulated genes and -apoptosis in human cancer

Beta-catenin and TCF4 mediated transcription in colon cancer

1992-1995 Research Specialist I and II

Department of Biological Sciences, University of Southern California, Los Angeles, California

Single germ cell linkage and mutational analysis

# **SOCIETY MEMBERSHIP:**

2002-present American Association for Cancer Research (AACR)

1996-present American Association for the Advancement of Science (AAAS)

2018- Radiation Research Society

**JOURNAL EDITORSHIP:**

2011-present Associate Editor, *Molecular Carcinogenesis*

2018-Associate Editor, *Genes & Diseases*

***AD HOC* REVIWERS for the JOURNALS**:

2003-present

*Proceedings of the National Academy of Sciences*

*Genes and Development*

*Science Translational Medicine*

*Nature communications*

*Chemistry and Biology (Cell Press)*

*The Journal of Experimental Medicine*

*EMBO Journal*

*Cancer Research*

*Clinical Cancer Research*

*Molecular Cancer Therapeutics*

*Gastroenterology*

*Gut*

*Cell Death and Differentiation*

*Cell Death and Disease*

*Cell Cycle*

*Oncogene*

*Oncotarget*

*Neoplasia*

*Leukemia*

*International Journal of Cancer*

*Molecular Cancer*

*Molecular Carcinogenesis*

*Molecular Pharmacology*

*Molecular Therapy*

*Cancer Biology and Therapy*

*Cancer Chemotherapy and Pharmacology*

*Cancer letters*

*Cancers*

*Cancer*

*Cell Biology and Toxicology*

*European Journal of Cancer*

*The Journal of Carcinogenesis & Mutagenesis*

*The Journal of Experimental & Clinical Cancer Research*

*Journal of Hematology and Oncology Genes, Chromosomes and Cancer*

*Molecular and Cellular Biology*

*Cell proliferation*

*Biochemical and Biophysical Research Communications*

*Head and Neck*

*Organogenesis*

*BBA Molecular Cell Research*

*Anti-cancer Drugs*

*Recent Patents on Anti-Cancer Drug Discovery*

*PLoS One*

*Mini-Reviews in Medicinal Chemistry*

*BMC Cancer*

*BMC The Journal of Hematology & Oncology*

*Environmental Toxicology and Pharmacology*

*Experimental and Molecular Pathology*

*American Journal of Physiology: Gastrointestinal and Liver Physiology*

*American Journal of Physiology: Endocrinology and Metabolism*

*Translational Cancer Research*

*International Journal of Cancer*

*Clinical Colorectal Cancer*

*Free Radical Biology & Medicine*

**GRANT REVIWERS:**

NIH: (NIH/NIDDK): ISCC Consortium pilots and ancillary R01s (2010-2013)

NIH: Basic Mechanisms of Cancer Therapeutics Study Section, BMCT (02/06-02/07/2012)

NIH: Basic Mechanisms of Cancer Therapeutics Study Section, BMCT (10/1-10/2/2012)

NIH: Radiation Oncology Special Emphasis Panel ZRG1 OTC-K (04) (2/12/2013)

NIH/NIAID: Special Emphasis Panel, 2013/05 ZAI1 LGR-I (M1) 1 (3/6-3/7/2013)

NIH/NCI: Special Emphasis Panel ZCA1 RPRB-B (01) S (NCI Omnibus Review, Cancer Etiology/Genetics) (7/18-7/19/2013)

NIH: Radiation Therapeutics and Biology Study Section, RTB (10/28-10/29/2013)

NIH: Radiation Therapeutics and Biology Study Section, RTB (2/10-2/11/2014)

NIH: Radiation Therapeutics and Biology Study Section, RTB (6/16-6/17/2014)

NIH: Basic Mechanisms of Cancer Therapeutics Study Section, BMCT (2/2-2/3/2015)

NIH/NCI: Special Emphasis Panel, ZCA1 TCRB-3(C2), SBIR Topic 338 (3/20/2015)

NIH: Basic Mechanisms of Cancer Therapeutics Study Section, BMCT (10/8-10/9/2015)

NIH: Special Emphasis Panel 2016/10 ZRG1 OTC-C (03) M (6/1/2016)

NIH: Basic Mechanisms of Cancer Therapeutics Study Section, BMCT (10/6-10/7/2016)

NIH: Special Emphasis Panel, NCI ZCA1 TCRB-D (C2) SBIR phase II SBIR Topics 338 and 339 (5/24/2017)

NIH: Basic Mechanisms of Cancer Therapeutics Study Section, BMCT, standing member (7/1/2017-), Co-Chair (10/2018)

Chinese National Science Foundation (2004)

Austrian Science Foundation (2004 and 2005)

Alliance for Cancer Gene Therapy (2005, 2006, 2008, 2009, 2010, 2011, 2015)

The Health Research Board, Ireland (2007)

Cancer Research UK (2007 and 2008)

University of Pittsburgh Cancer Institute Molecular Virology Program Pilot Projects (2008)

The University of Pittsburgh Clinical and Translational Science Institute, the Basic to Clinical Collaborative Research Pilot Program (BaCCoR) (2011)

The University of Pittsburgh Clinical and Translational Science Institute, the Women’s Malignancy Collaborative Research Pilot Program (2012)

Medical Research Council of UK (2012 and 2014)

Translational Clinical Research Partnership-Duke-NUS/SingHealth academic clinical programme (Biomedical Research Council A\*STAR, Singapore, 2012)

The French National Research Agency (2014)

AACR, Never Too Young Coalition-AACR Fellowships in Young-Onset Colorectal Cancer Research (02/2016)

**AWARDS/HONORS:**

1987 National High School Students Essay Competition Excellence Award

People’s Republic of China

1988-1990 Excellent Student Awards

Sichuan University, Chengdu, P.R. China

1989 Excellent Student Leader Award

Sichuan University, Chengdu, P.R. China

2001 Michael A. Shanoff Research Excellence Award (The Top thesis research)

Johns Hopkins University School of Medicine

2001 The first prize for basic research, Fellow Research Day

The Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins

2003 Young Clinical Scientist Award

The Flight Attendant Medical Research Institute

2004\_09 The Hillman Fellow of Innovative Cancer Research

2004 Career Development Award, UPCI Head and Neck SPORE Program

2005 The Alliance for Cancer Gene Therapy Young Investigator Award

2008 University of Pittsburgh Cancer Institute Junior Scholar Award

2010 American Cancer Society Research Scholar Award

2011 University of Pittsburgh Innovator Award

# **INVITED SEMINARS:**

1. “p53-induced Genes and a Novel mediator of Apoptosis”, The Young Investigators Day, Johns Hopkins School of Medicine, April 12, 2001, Baltimore, Maryland.
2. “Apoptotic Mediators of Tumor Suppressor Pathways in Colon Cancer” Department of Pharmacology and Therapeutics, Roswell Cancer Institute, February 6, 2002, Buffalo, New York.
3. “SAGE Analysis on the p53 Pathway”., American Association for Cancer Research Special Conference on Colon Cancer: Genetics to Prevention, March 7-10, 2002, Philadelphia, Pennsylvania.
4. “PUMA as a Mediator of p53-induced Apoptosis in Colon Cancer”, The 11th International p53 Workshop, May 15-18, 2002, Barcelona, Spain.
5. “PUMA as a Mediator of p53-induced Apoptosis in Colon Cancer”, The third International Symposium on Current Technologies for Gene Expression Analysis, October 12-15, 2002, Nashville, Tennessee.
6. “Mitochondrial Effectors of p53-Induced Apoptosis”, American Society of Nephrology Annual Meeting, October 30-November 4, 2002, Philadelphia, Pennsylvania.
7. “PUMA Mediates Apoptotic Responses to Anticancer Agents and p53”, Department of Biochemistry and Molecular Biology, University of New Mexico, November 18, 2003, Albuquerque, New Mexico.
8. “Apoptosis induced by Tumor Suppressors and Anticancer Agents”, University of Pittsburgh Cancer Institute Basic Research Seminar, April 20, 2004, Pittsburgh, Pennsylvania.
9. “PUMA Regulates Apoptosis induced by anticancer Agents and p53”, The Cancer Institute at Peking Union Medical College and Chinese Academy of Medical Sciences, April 27, 2004, Beijing, P.R. China.
10. “PUMA Regulates Apoptosis induced by anticancer Agents and p53”, Academic Forum for the 80th Anniversary of Sun Yat-sen University School of Medicine, April 30, 2004, Guangzhou, P.R. China.
11. “Enhance the Therapeutic Responses of Cancer Cells through Apoptosis Induction”, The Hillman Foundation, December 7, 2004, Pittsburgh, Pennsylvania.
12. “Molecular Mechanisms of Anticancer Drugs-induced Apoptosis”, Department of Neurosurgery, University of Pittsburgh, March 1, 2005, Pittsburgh, Pennsylvania.
13. “Apoptosis as a Target in Cancer Therapy”, Chinese Academy of Military Sciences, Beijing Institute of Transfusion Medicine, October 18, 2007, Beijing, P.R. China.
14. “Targeting Apoptosis for Cancer Therapy”, Sun Yet-Sen University School of Medicine Chancellor Seminar Series, Oct 22, 2007. Guangzhou, P. R. China.
15. “Targeting PUMA for Radioprotection” , The University of Pittsburgh Center for Medical Counter Measures Against Radiation (CMCR) Seminar, September 17, 2008, Pittsburgh, Pennsylvania.
16. “Let Die or Not-Manipulating Apoptosis in Cancer Therapy”, Department of Pathology, University of Pittsburgh, October 15, 2008, Pittsburgh, Pennsylvania.
17. “Genetic Basis of Sensitivities to Anticancer Therapy”, Department of Human Genetics, University of Pittsburgh Graduate School of Public Health, January 16, 2009, Pittsburgh, Pennsylvania.
18. “Coordinated Regulation of Intestinal Stem Cell Survival and Renewal by PUMA and p21”, NIDDK Intestinal Stem Cell Consortium Steering Committee Meeting, December 2, 2009, Bethesda, Maryland.
19. “A Dominant Role of p21 in Intestinal Regeneration Following Irradiation”, NIDDK Intestinal Stem Cell Consortium Steering Committee Meeting, April 22-23, 2010, City of Hope, Duarte, California.
20. “Intestinal Stem Cells in Injury and Cancer”, Sun Yet-Sen University, School of Medicine Chancellor Seminar Series, June 1, 2010, Guangzhou, P. R. China.
21. “Intestinal Stem Cells in Injury and Cancer”, the third Military Medical University, Research Institute of Daping Hospital, June 8, 2010, Chongqing, P. R. China.
22. “Intestinal Stem Cells and Cancer”, the third Military Medical University, Southwest Hospital and Cancer Institute, June 10, 2010, Chongqing, P. R. China.
23. “Dying Intestinal Stem cells, Good or Bad?”, BIT’s 3rd Annual World Cancer Congress, June 22, 2010, Singapore.
24. “Role of PUMA in EGFR targeted therapies in HNSCC”, the American Head and Neck Society (AHNS) 2010 Research Workshop on the Biology, Prevention & Treatment of Head & Neck Cancer October 28-30, 2010, Arlington, Virginia.
25. “Intestinal Stem Cells in Danger: to live or die? ”, Stem Cells in Cancer Symposium, part of the 25th Anniversary Celebration of the University of Pittsburgh Cancer Institute Nov 5, 2010, Pittsburgh, Pennsylvania.
26. “Molecular Mechanisms of Intestinal Stem Cell Injury” Experimental Pathology Seminar, University of Pittsburgh Department of Pathology, January 4, 2011, Pittsburgh, Pennsylvania.
27. “Intestinal Stem Cells in Injury and Cancer” Medical College of Wisconsin, Department of Pathology Grand Rounds, Mar 24, 2011, Milwaukee, Wisconsin.
28. “PUMA and p21 in Intestinal Stem Cell Injury and Regeneration Following Irradiation”, NIDDK Intestinal Stem Cell Consortium Steering Committee Meeting, May 2-3, 2011, Stowers Medical Research Institute, Kansas City, Missouri.
29. **“**PUMA Signaling and Targeting”, Tianjin Medical University Institute of Basic Research and Chinese Academy of Medical Sciences Blood Institute, May 16, 2011, Tianjin, PR China.
30. “Targeting PUMA for Intestinal Protection”, the third Military Medical University, Research Institute of Daping Hospital, May 23, 2011, Chongqing, P. R. China.
31. “Targeting Cell Death in Tissue Injury and Cancer”, Nanjing Medical University, Institute of Basic Research and Center of Metabolic Disease Research, May 26, 2011 Nanjing, Jiangsu, P. R. China.
32. “Intestinal Stem Cell Injury and Regeneration Following Irradiation”, NIDDK Intestinal Stem Cell Consortium Steering Committee Meeting, October 10-11, 2011, University of Pennsylvania, Philadelphia, Pennsylvania.
33. “Using crypt culture as a model to study intestinal stem cell Injury and Protection”, NIDDK Intestinal Stem Cell Consortium Steering Committee Meeting, April 30 to May 1, 2012, Oregon Health & Science University, Portland, Oregon.
34. “PUMA in Colitis-associated Injury” the 24th University of Pittsburgh Cancer Institute retreat, June 22, 2012 Greensburg, Pennsylvania.
35. “Saving Intestinal Stem Cells from PUMA and Death”, University of Pittsburgh Science 2012, October 5, 2012, Pittsburgh, Pennsylvania.
36. “PUMA-targeted Intestinal Stem Cell Protection”, The Cancer Institute at Peking Union Medical College and Chinese Academy of Medical Sciences, Oct 30, 2012, Beijing, P.R. China.
37. “New advances in studying intestinal stem cells-markers and culture”, Institute of Hematology &Hospital of Blood Diseases, Chinese Academy of Medical Sciences and Peking Union Medical College, November 1, 2012 Tianjin, P.R . China.
38. “Intestinal stem cell protection and p53/PUMA/p21 signaling”, The 3rd International Forum on Stem Cells, November 3, 2012, Chinese Academy of Medical Sciences and Peking Union Medical College Tianjin, P.R . China.
39. “Targeting apoptosis for stem cell protection”, Nanjing Medical University, Institute of Basic Research and Center of Metabolic Disease Research, Nov 5, 2012. Nanjing, Jiangsu, P. R. China.
40. “PUMA-targeted Intestinal Stem Cell Protection”, College of Animal Science and Technology, Nanjing Agricultural University, Nov 6, 2012. Nanjing, Jiangsu, P. R. China.
41. “PUMA-targeted Intestinal Stem Cell Protection”, the third Military Medical University, Research Institute of Daping Hospital, Nov 8, 2012, Chongqing, P. R. China.
42. “Designing and Publishing Studies with Herb-based Medicine”, Chongqing Beipei Traditional Chinese Medicine Hospital, Nov 9, 2012, Chongqing, P. R. China.
43. “Use or abuse mitochondria to kill cancer cells” The first UPCI Molecular and Cellular Cancer Biology Program Retreat, UPMC cancer center, March 12, 2013, Pittsburgh, Pennsylvania.
44. “Exploring PUMA-mediated apoptosis in cancer therapy” Roswell Park Cancer Institute, March 25, 2013, Buffalo, New York.
45. “Stress-triggered apoptosis signaling in ISCs”, ISCC symposium, 2013 Digestive Week, May 18-21, Orland, Florida
46. “Exploring death mechanisms in normal and neoplastic intestinal stem cells”, the 14th Annual NIH Center for Molecular Studies in Digestive and Liver Diseases symposium/retreat, June 26, 2013, Philadelphia, Pennsylvania.
47. “PUMA-mediated Cell killing and Cancer Therapy”, University of Oklahoma Health Sciences Center, August 5, 2013, Oklahoma City, Oklahoma.
48. “Intestinal Stem Cell Protection Against Cancer Treatment”, Elkin Lectureship, Oct 4, 2013, the Winship Cancer Institute of Emory University Oct 4, 2013, Atlanta, Georgia,
49. “Exploring and Targeting Novel Functions of Caspase-3 in Colon Cancer” Experimental Pathology Seminar, University of Pittsburgh Department of Pathology, January 21, 2014, Pittsburgh, Pennsylvania.
50. “In search of radiation resistant intestinal stem cells”, NIDDK Intestinal Stem Cell Consortium Steering Committee Meeting, March 13, 2014, NIDDK, Bethesda, Maryland.
51. “Explore Novel Cell Death Mechanisms in Colon Cancer”, the 26th University of Pittsburgh Cancer Institute retreat, June 19, 2014, Greensburg, Pennsylvania.
52. “Making the ultimate decision- intestinal stem cell killing mechanisms”, Department of Biological Sciences at Carnegie Mellon University, Oct 29, 19, 2014, Pittsburgh, Pennsylvania.
53. “Can we target the driver mutation in colon cancer?”, Chinese Academy of Military Sciences, Beijing Institute of Transfusion Medicine, Dec 3, 2014, Beijing, P.R. China.
54. “How to target the colon cancer driver?”, The Cancer Institute at Peking Union Medical College and Chinese Academy of Medical Sciences, Dec 4, 2014, Beijing, P.R. China.
55. “Targeting mTOR in colon cancer”,the third Military Medical University, Research Institute of Daping Hospital, Dec 9, 2014, Chongqing, P. R. China.
56. “Explore the death receptor pathway in colon cancer”,the 3rd Affiliated Hospital of Sun Yet-Sen University, Dec 10, 2014, Guangzhou, P. R. China.
57. “Explore the death receptor pathway in colon cancer”, The UPCI Molecular and Cellular Cancer Biology Program Retreat, Feb 17, 2015, Pittsburgh, Pennsylvania.
58. “Protecting intestinal stem cells against genotoxic stress”, The UPCI genome stability mini symposium, June 4, 2015, Pittsburgh, Pennsylvania.
59. “Targeting translation addiction in colon cancer”,The third Military Medical University, Research Institute of Daping Hospital, Aug 11, 2015, Chongqing, P. R. China
60. “Explore colon cancer driver-dependent vulnerability”, Basic Science Seminar Series, Cardinal Bernardin Cancer Center, Loyola University, Nov 9, 2015, Chicago, [Illinois](https://en.wikipedia.org/wiki/Illinois).
61. “Targeting intestinal stem cell dysfunctions for radiation mitigation”, NIAID CMCR Kick off meeting, Feb 23, 2016, Rockville, MD
62. “Intestinal stem cell precision protection against genotoxic stress”, State Key Laboratory of Hematology, Chinese Academy of Medical Sciences Blood Institute, July 13, 2016 Tianjin, P.R. China
63. “Intestinal stem cell precision protection against genotoxic stress”, Boling Biological Science Forum, State Key Laboratory of Medicinal Chemical Biology, Nankai University, July 14, 2016, Tianjin, P. R. China.
64. “Intestinal stem cell precision protection against genotoxic stress”, State Key Laboratory of biomedical technology at Nanjing University, July 18, 2016, Nanjing P. R. China.
65. “Intestinal stem cell precision protection against genotoxic stress”, State key Laboratory of Trauma and regeneration, the third Military Medical University, Research Institute of Daping Hospital, July 19, 2016. Chongqing, P. R. China.
66. “Intestinal stem cell precision protection against genotoxic stress”, Lingnan Forum, the 3rd Affiliated Hospital of Sun Yet-Sen University, July 22, 2016, Guangzhou, P. R. China.
67. “Intestinal stem cell protection by pharmacological quiescence”, Precision Medicine and Ion Channel retreat, Nov 11, 2016, Guangzhou, China.
68. “Intestinal stem cell protection during inflammation”, International conference on precision Medicine & translation medicine frontiers, Sun Yet-Sen University, Nov 12, 2016, Guangzhou, P. R. China.
69. “New insights in colitis-associated colon cancer”, Department of Medicine GI research conference, University of Pittsburgh School of Medicine, Nov 18, 2016.
70. “Intestinal stem cell number and quality in radiation mitigation”, NIAID CMCR 2nd annual meeting, Dec 6, 2016, Rockville, MD.
71. “p53-based intestinal stem cell protection against cancer treatments”, Magee-Womens Research Institute's Research Seminar Series, University of Pittsburgh School of Medicine, Feb 28, 2017, Pittsburgh, PA.
72. “Exploring p53-dependent protective DNA damage response in intestinal stem cells”, Department of Biochemistry and Molecular Medicine, The George Washington University School of Medicine and Health Science, April 18, 2017, Washington DC.
73. “Making the great greater, p53-dependent intestinal stem cell protection”, Rutgers Cancer Institute of New Jersey, Rutgers, The State University of New Jersey, June 14, 2017, New Brunswick, NJ
74. “Exploring translation addiction in colon cancer”, The Seventh International Workshop on Cancer Systems Biology (ICSB), July 1-2, 2017, Zhuhai, Guangdong, P.R. China
75. “Translation vulnerability of colon cancer” State key Laboratory of Trauma and regeneration, the third Military Medical University, Daping Hospital, July 4, 2017, Chongqing, P. R. China.
76. “Intestinal stem cell protection against DNA damage”, Southern Medical University, July 6, 2017, Guangzhou, P.R. China
77. “Exploring translation addiction in colon cancer” Department Gastroenterology, the third Affiliated Hospital of Sun Yet-Sen University, July 7, Guangzhou, P. R. China.
78. “Helping p53 protect the intestine from radiation-injury”, Department of Radiation Oncology, Duke University, September 11, 2017, Durham, North Carolina.
79. “Intestinal stem cell radioprotection by quiescence and beyond”, The First International Workshop on Radiation-induced Stem Cell Injury and Regeneration, September 19-21, 2017, Tianjin, P.R. China.
80. “A changing appetite driven by oncogenic translation”. The 6th China, Bangchui Island Cancer Symposium, September 22-24, Hangzhou, China
81. “Understand and exploit oncogenic translation”, Four Diamonds Pediatric Oncology Seminar Series, Department of Pediatrics, Penn State College of Medicine, Oct 20, 2017, Hershey, PA
82. “Targeting the intestinal barrier for radiation mitigation”, NIAID CMCR 3rd annual meeting, Dec 5-6, 2017, Rockville, MD
83. “Intestinal protection against chemoradiation, from the pathway to small molecules”, Department of Pathology Seminar, University of Pittsburgh, March 7, 2018
84. “Animal models of GI cancer, an update”, UPMC Hillman Cancer Center 30th annual Retreat, Pitt. Greensburg, Pittsburgh, June 21-22
85. “Exploring colon cancer translation vulnerability”, Southern University of Science and Technology, School of Medicine, July 4, 2018, Shen Zhen, Guangdong, China
86. “Targeting translation in colon cancer”, State key Laboratory of Trauma and regeneration, the Army Medical University, Daping Hospital, July 17, 2018, Chongqing, P. R. China.
87. “Protection against intestinal radiation injury, p53 and beyond”, the Annual Meeting for the Radiation Research Society, September 23-26, 2018, Chicago, IL.
88. “Translational addiction of colon cancer”, the 4th International “Genes & Diseases” Symposium, October 25-26, 2018, Chongqing, China.
89. TBA , “Understanding oncogenic translation”, TBA, October 29, 2018, Nanjing, China
90. “Dodging the bullets, Intestinal Stem Cell protection”, Chinese Academy of Military Sciences, Beijing Institute of Transfusion Medicine, Nov 1, 2018 , Beijing, P.R. China.
91. “Saving the gut from cancer treatments” 2018 International Conference of Frontiers in Precision & Translational Medicine. Nov 1-3, 2-18, Peking University Health Science Center, Beijing, China

1. TBA, NIAID CMCR 4rd annual meeting, Dec 5-6, 2018, Rockville, MD
2. TBA, Stanley S. Scott Cancer Center, LSUHSC-New Orleans, Dec 19-20, 2018, New Orleans, LA.
3. TBA, Markey Cancer Center at the University of Kentucky, Mar 26-27, 2019 Lexington, KY.
4. TBA, Eppley Seminar Series speaker, Eppley Institute for Research in Cancer | Fred & Pamela Buffett Cancer Center, University of Nebraska Medical Center. April 10-11, 2019.
5. “Intestinal protection against cancer treatments, tricking p53”, 17th SCBA International Symposium, Kunming, China, July 24 – July 28, 2019.

**Meeting organizer/session chair**

1. NIDDK Intestinal Stem Cell Consortium Steering Committee Meeting, Co-Organizer, Oct 21-22, 2012, University of Pittsburgh, Pittsburgh, Pennsylvania.
2. “Mitochondria & metabolism”, the inaugural University of Pittsburgh Cancer Institute (UPCI) Molecular and Cellular Cancer Biology Program Retreat, Session Chair, March 12, 2013, Pittsburgh, Pennsylvania.
3. The Seventh International Workshop on Cancer Systems Biology (ICSB), Session Chair, July 1-2, 2017, Zhuhai, Guangdong, P.R. China.
4. The First International Workshop on Radiation-induced Stem Cell Injury and Regeneration, Co-organizer, September 20-21, 2017, Tianjin, P.R. China.

**TEACHING:**

**MSCMP3710: Cancer Biology and Therapeutics:** Lecturer (Graduate School, Fall 2011, 2012 , 2013 2014, 2015, 2016, 2017 and 2018), 8-20 second-year Ph.D. students, 1 lecture for a total of 1 contact hour each year.

**MSCMP 3740: Stem Cell Course**: Lecturer (Graduate School, Fall, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2017, 2018), 10-25 second-year Ph.D. students, 1 lecture for 1.5 contact hours each year.

**MSCMP 2730: Molecular Mechanisms of Tissue Growth and Differentiation**: Lecturer (Graduate School, Spring, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 and 2018), 8-24 first and second-year Ph.D. students, 2 lectures for a total of 2 contact hours each year.

**University Immersion program (UIP):** **Cell death -basic mechanisms and applications.** July 9-13, 2018. Sichuan University, Chengdu, China. Invited teacher. **7**9 second-year College students, 11 hours of lectures and 4.5 hours of problem-based learning, for a total of 16 contact hours each year.

**MSTP 5290/MSELCT 5130: Research Basis of Medical Knowledge**, Classroom preceptor (Medical School, Fall 2010, 2012, 2013 and 2015), ~15-21 first year MSTP and PSTP students, 1.5 contact hours in class and 1 hour prior to class each year.

**Radiation Biology**, Radiation Oncology Residency and Fellowship Training Program (Medical School, Spring, 2007, 2008, 2009, 2010, 2011, 2012 and 2013), 4-8 second-year Radiation Oncology residents, 1 lecture for 1 contact hour each year.

**INTBP 2005 (2091\_24040): Foundations of Biomedical Science Conference**: Preceptor (Graduate School, Fall, 2008, 2009 and 2010), 4-7 first-year Ph.D. students, 9 conferences for a total 18 contact hours each year.

**MSCMP/BIOENG3760CRN467301**: Research Seminars in Regenerative Medicine (CATER Seminar Series), Lecturer (Graduate School, Winter 2011), ~12 third-year Ph.D. students in Molecular and Cellular Pathology and Bioengineering Graduate Programs, 1 lecture for a total of 1 contact hours each year.

**MED 5217: Introduction to Pathobiology**: Classroom Preceptor (Medical School, Summer, 2008), 5-12 second-year M.D. students, 2 sections for a total of 4 contact hours each year.

**Cancer Care Session**: Preceptor (Medical School, 2008 fall), 3 fourth year MD. Ph.D. students, 1 section for 2 contact hours each year.

**MENTORING AND TRAINING:**

**Current lab members**

2008- Brian Leibowitz (Ph.D, Rutgers University, 2008), Research Instructor

2010- Liang Wei (Ph.D, Institute of Zoology, Chinese Academy of Sciences, 2010), Research Scientist

2015- Hang Ruan (Ph.D, Xiamen University, 2014), Postdoctoral Fellow

2017- Man Gao (Ph.D 2016, Shanghai Institute of Material Medica, Chinese Academy of Sciences, 2016) Postdoctoral Fellow (1/2017-)

2018- Guangyi Zhao, (Ph. D 2018, University of Pittsburgh), Postdoctoral Fellow

**Past members:**

**Faculty**

2010-12 Wei Qiu (Ph.D, Institute of Zoology, Chinese Academy of Sciences), Research Instructor, currently Associate Professor at Loyola University, Chicago.

**Postdoctoral:**

2004-05 Tsukasa Sakaida (M.D., Ph.D., Chiba University, Japan), Surgeon physician scientist at Department of Neurological Surgery, Chiba University, Chiba, Japan

2004-08 Lihua Ming (Ph.D. Peking Union Medical College and Chinese Academy of Medical Sciences), currently Research Scientist at University of Pittsburgh, Pittsburgh, USA.

2005-10 Quanhong Sun (Ph.D, Institute of Zoology, Chinese Academy of Sciences), currently Research Instructor at University of Pittsburgh, Pittsburgh, USA.

2005-10 Wei Qiu (Ph.D, Institute of Zoology, Chinese Academy of Sciences), currently assistant professor at Loyola University Chicago, Chicago, USA.

2009-12 Mei Li (Ph.D. Chinese Agricultural University), currently Assistant Professor at Nanjing Agricultural University, Nanjing, China

2009-13 Xingnan Zheng (Ph.D, Shanghai Institutes for Biological Sciences, and Institute of Plant Physiology and Ecology, Chinese Academy of Sciences), Postdoctoral Research Associate, currently Research Associate at University of North Carolina.

2014 Matthew F. Brown (PhD, University of Pittsburgh), NIH postdoctoral Fellow

2010-15 He Kan (Ph.D, Jilin University, China), Postdoctoral Research Associate, currently Associate Professor at Jilin University, China

2008-15 Brian Leibowitz (Ph.D, Rutgers University), Postdoctoral Research Associate, currently Research Instructor in Pathology at University of Pittsburgh.

2009-15 Xinwei Wang (MD, Ph.D, Sun Yat-sen University), Postdoctoral Research Associate

2015-16 Mei Li (Ph.D., Assistant professor, Nanjing Agricultural University), Visiting Scholar

**Resident**

2017 Allen Li, (MD 2015, University of Pittsburgh), Resident (3/2017-12/2017)

**Predoctoral:**

2005 Michelle Wood (B.S.), Rotation Graduate Student (01/05-04/05)

2006 Anupma Jha (M.S., Wright State University), Rotation Graduate Student (01/06 -03/06)

2009 Phillip Vernon (B.S., Francis Marion University), Rotation Graduate Student (06/09 -09/09)

2009 Evan Delgado (B.S., State University of New York at Albany), Rotation Graduate Student (09/09-09/12)

2011 Kelly Koral (B.S., Wheeling Jesuit University), Rotation Graduate Student (01/11-03/11)

2013 Colleen Judge (B.S. Princeton University), Rotation MSTP Student (06/13-08/13)

2015 Jacquelyn Russell (B.S., Rutgers University), Rotation Graduate Student (01/15-04/15)

2016 Katherine Wilsdon (BS. University of Missouri), Rotation Graduate Student (06-09/2016)

2011-13 Matthew F. Brown (B.C, Cal State, Sacramento, CA), CMP Ph.D Thesis student (3/11-12/13), Medical Science Liaison at Bayer Healthcare

2013-14 Qingyang, Ding, PhD student, co-mentored with Dr. James Faeder, University of Pittsburgh and Qinghua University joint PhD program (12/2013-7/2014)

2014-16 Xiangyun Li (MBS, MS, The Third Military Medical University, China) joint PhD student.

2015-17 Yingpeng Peng (Xiangya Medical School of Central South University), MD student, visiting scholar, University of Pittsburgh and Central South University joint training program (6/2016-8/2017)

2015-17 Cheng Bi, (B.S. Sichuan University, China), Pitt. Bioengineering MS student and Research Assistant (11/2015-4/2017). Currently Ph.D student in Bioengineering at Purdue University (8/2017).

**Undergraduate:**

2003 Craig Seaman (B.S., West Virginia University), awarded University of Pittsburgh Undergraduate Student Summer Research Grant, currently Faculty Physician at UPMC

2007 Cierra Moss (B.A., Hampton University), awarded University of Pittsburgh Cancer Institute Minority Undergraduate Student Summer Research Grant, currently and MD. Ph.D (MSTP) student at Columbia University

2008 Xiamen Sun (B.S. Duke University), awarded University of Pittsburgh Undergraduate Student Summer Research Grant Summer Student (05/08-08/08), currently a medical student at University of Pittsburgh

2010 Emily Li (Undergraduate Student, University of Maryland), Summer Student (06/10-08/10)

2012 Flex Nguyen (Undergraduate Student, University of Pittsburgh), awarded University of Pittsburgh Undergraduate Student Summer Research Grant (05/12-07/12)

**High School:**

2012 Patricia Chen, North Allegheny High School, currently undergraduate student at Johns Hopkins University majoring Biomedical Engineering (6/12-8/12)

2018 Alexandria Bosetti,(Lexie), Sewickley Academy, Sewickley, PA, Junior (6-8/2018)

**Awards received by trainees:**

2003 Craig Seaman (B.S., West Virginia University), Undergraduate Student Summer Research, University of Pittsburgh

2006 Quanhong Sun, the 3rd place Poster Award, University of Pittsburgh Cancer Institute Retreat

2007 Lihua Ming, the 2nd place Poster Award, Department of Pathology Retreat, University of Pittsburgh

2009 Quanhong Sun, the 2nd place Poster Award, Department of Pathology Retreat, University of Pittsburgh

2010 Wei Qiu, Abstract selected for Oral Presentation, Department of Pathology Retreat, University of Pittsburgh

2011 Wei Qiu, the 3rd place Poster Award, University of Pittsburgh Cancer Institute Retreat

2012 Xinwei Wang, Abstract selected for Oral Presentation, Department of Pathology Retreat, University of Pittsburgh

2012 Flex Nguyen, University of Pittsburgh Undergraduate Student Summer Research Grant, University of Pittsburgh

2013 Matthew F. Brown, Abstract selected for Oral Presentation, Department of Pathology Retreat, University of Pittsburgh

2013 Brian Leibowitz, the 1st place Poster Award (Basic Research), Department of Pathology Retreat, University of Pittsburgh

2013 Matthew F. Brown, the 2nd place Poster Award (Graduate Students), Department of Pathology Retreat, University of Pittsburgh

2014 Liang Wei, Abstract selected for Oral Presentation, Department of Pathology Retreat, University of Pittsburgh

2014 Xinwei Wang, the 1st place Poster Award (Basic Research), Department of Pathology Retreat, University of Pittsburgh

2014 Kan He, the 2nd place Poster Award (Basic Research), Department of Pathology Retreat, University of Pittsburgh

2014 Brian Leibowitz, the 2nd place Poster Award (Preclinical Studies), University of Pittsburgh Cancer Institute Retreat

2018 Hang Ruan, Abstract selected for Oral Presentation, Department of Pathology Retreat, University of Pittsburgh

**SERVICES:**

**1. External committees:**

2009-14 NIDDK (National Institute of Diabetes and Digestive and Kidney Diseases) Intestinal Stem Cell Consortium Steering Committee, member

2009-14 NIDDK Intestinal Stem Cell Consortium Scientific subcommittee, member

2009-14 NIDDK Intestinal Stem Cell Consortium Publication subcommittee, member

2011-12 NIDDK Intestinal Stem Cell Consortium Translation subcommittee, member

2016-2017 AACR Colon Cancer Research Fellowships Scientific Review Committee

**2. Internal committees and activities (University, Medical School and Department)**

2002-present UPMC Hillman Cancer Center (HCC, Former UPCI) Faculty Search Committee:

Molecular Biology and Cell Biology Program

Molecular Virology Program

Cancer Bio- and Chemoprevention Program

GI malignancy program

Head and Neck Cancer Program

Cancer Epidemiology and Prevention Program

Department of Pathology Faculty Search Committee

Division of Clinical Chemistry (2007)

Melanoma Program (2015-2018)

Tumor Microenvironment Center (2016-)

Cancer Biology Program (2018)

UPMC HCC Director Search (2017)

UPMC HCC Associate Director of Basic Science Search (2018)

2010-present School of Medicine Interdisciplinary Biomedical Graduate Training Program (IBGTP), interviewer and recruiter

2011-present School of Medicine MSTP (MD/PD student) Program, Interviewer/Recruiter

2011-present School of Medicine PSTP (MD student) Program, Interviewer/Recruiter

2012-present Member, Department of Pathology Retreat Committee

2002-05 UPCI Cancer Molecular Biology Work-in-progress Seminars, Director

2008 University of Pittsburgh School of Medicine Pathology Resident Research Training Program (PIRRT), recruiter

2008-14 Chair, UPCI Lentiviral and Vector Core Facility Advisory Committee

2011 University of Pittsburgh Postdoctoral Association, Date and Dine table host

2011 Member, UPCI Retreat Committee

* 1. Director, UPCI basic and translation research seminars

2013 Member, UPCI Summer Academy (NIH funded) Admission committee

2013 Co-chair, UPCI retreat, poster award committee (Basic Research)

2015 Co-chair, UPCI retreat, poster award committee (Translational Research)

2015- Chair, HCC Animal Facility Advisory Committee

2018- The UPMC Hillman Cancer Center Women’s Task Force, inaugural member

**3. Graduate student comprehensive exam and thesis committee:**

2009-11 Sarah Choi, MD, Ph.D. Student, MSTP program and Lab of Christopher Bakkenist, Dissertation Committee Associate Member

2010-11 Eva Goellner, Ph.D. Student, IBGTP program and Lab of Robert Sobol, Dissertation Committee Associate Member

2010-11 Matthew Brown, Ph.D. Student, IBGTP program and Lab of Anette Duensing, Comprehensive Exam and Dissertation Committee, Associate Member

2010-13 Julie Chandler, Ph.D. Student, IBGTP program and Lab of Eric Lagasse, Comprehensive Exam and Dissertation Committee, Chair

2011-13 Matthew Brown, Ph.D. Student, IBGTP program and Lab of Jian Yu, Dissertation Committee, Advisor

2012-15 Katharine Harris, Ph. D Student, IBGTP program and Lab of Carolyn Coyne, Dissertation Committee, Associate Member

2013-16 Kevin McCormick, Ph. D Student, IBGTP program and Lab of Saumendra N. Sarkar, Dissertation Committee, Associate Member

2014-17 Coyne G. Drummond, Ph. D Student, IBGTP program and Lab of Carolyn Coyne, Dissertation Committee, Associate Member

2015-17 Randall J. McAuley, MSTP program and Lab of Linda McAllister-Lucas and Peter Lucas, Comprehensive Exam and Dissertation Committee, Associate Member

2016- Heejae Kang, MSTP program and Lab of Peter Lucas and Linda McAllister-Lucas, Comprehensive Exam and Dissertation Committee, Associate Member

2016- Jacqueline Starr Welty, Ph. D Student, IBGTP program and Lab of Li Lan, Dissertation Committee, Associate Member

**4. Community Outreach (Selected):**

1996-1997 Johns Hopkins School of Medicine Graduate Student Association, Secretary

2007-2009 Chinese Faculty Association at University of Pittsburgh, President

2008/05 The greater Pittsburgher area China 5.12 Earthquake Relief Fund Drive and Rebuilt-A-School Campaign (RASC), Organizer and committee member

2009/06 Wuhan University President visit University of Pittsburgh, Co-host

2009/06 G20 summit task force, Ethnic (Chinese) professional representative, working with Dr. Mary Ester Van Shura (Director of Community Affairs Office of County Executive Dan Onorato, Allegheny County).

2009/10 University of Pittsburgh School of Medicine SOM Dean’s office and Chinese Faculty Association at University of Pittsburgh, meeting organizer

2009/11 National Natural Science Foundation of China (NSFC, Dr. Erdan Dong) visit to University of Pittsburgh, co-host

2011/08 Chinese Consulate General at New York Education branch, Consoler, Jianjun Cen and team, UPCI and lab visit, host

2011/08 American Cancer Society (ACS) Pittsburgh official and volunteer UPCI visit and lab tour, host

2013/11 The first Greater Pittsburgh Area Chinese Faculty Gathering, co-organizer with Chinese Association for Science &technology-Pittsburgh Chapter (CAST-P)

2015/07 University of Pittsburgh & Carnegie Mellon University Chinese Faculty Picnic, co-organizer with CAST-P

2016/02 The first Chinese New Year Parade in Pittsburgh, Team leader of Chinese Faculty and Family at University of Pittsburgh

2017/02 Ruijin Hospital and Shanghai Jiaotong University delegation visit to UPMC and University of Pittsburgh, led by Vice President Prof. Guang Ning. Pitt. Chinese Faculty dinner meeting on potential academic collaboration. Co-host with Dr. Weijin Sun.

2017/02 The second Chinese New Year Parade in Pittsburgh, Team leader of Chinese Faculty and Family at University of Pittsburgh.

2017/06 Chinese Consulate General at New York, Science and Technology branch, Counselor Jijun Xin and vice Consul Hu Feng Visit to UPCI and lab, Co-host.

2017/10 Invited panelist at the 9th biennial Penn State College of Medicine Graduate and Post-Doctoral Career Day on Saturday, October 21, 2017 at Hershey campus.

RESEARCH SUMMARY:

Programmed cell death is used by a multi-cellular organism to selectively remove cells that are no longer needed, damaged or dangerous. Deregulated cell death contribute to a wide variety of human diseases. My research mechanistically and therapeutically explores cancer driver-based regulation of cell death and survial mechnaisms in intestinal stem cells and colon cancer. I discovered and extensively characterized the major apoptotic target of p53 and Bcl-2 family member PUMA. I have been investigating the roles and crosstalks of different forms of cell death (apoptosis, necroptosis, mitotic catastrophe), DNA damage response, integrated stress response (IRS) in cancer biology and therapy, as well as in intestinal stem cell (ISC) injury and regeneration focusing on key drivers such as p53, APC/Myc, and RAS/RAF. My recent work expands into translation and metabolic reprogramming, immunogenic cell death and the microenvironment, and the discovery and development of small molecular modulators of cell death. The long-term goal of my research is to develop and identify pharmacological agents to improve the therapeutic index and long-term outcome of cancer patients. A multidisciplinary approach is used in our studies, including engineered somatic knockout and knockin cancer cell lines, genetically modified mice, various cancer, injury and intestinal stem cell models, mouse and human intestinal organoid culture, clinical samples, data mining and computational modeling.

I am a member of UPMC Hillman Cancer Center affiliated with Univeristy of Pittsburgh, a member of Molecular and Cellular Cancer Biology Program and Experimental pathology Division. I am a preceptor of the Interdisciplinary Biomedical Graduate Training Program (IBGTP) at University of Pittsburgh School of Medicine, and of the Medical Scientist Training program (MSTP) at Univeristy of Pittsburgh and Carneigie Mellon University, actively engaged in teaching and training of undergraduate, graduate (PhD), medical (MD) and MSTP (MD/PhD) students. I regularly review munucripts for professinal journals and grant proposals for the US and foreign funding agencies, incluidng the NIH.

# **PUBLICATIONS:**

-Listing of Publications at NCBI

<https://www.ncbi.nlm.nih.gov/myncbi/browse/collection/41149090/?sort=date&direction=descending>

**-Google Scholar, over 19,000 citations**

<http://scholar.google.com/citations?user=PfNbw24AAAAJ&hl=en&oi=ao>

**Research articles (99), over 12,000 citations in Thomson Reuters with an H index of 45**

1. Zhang L, Leeflang EP, **Yu J**, Arnheim N. Studying human mutations by sperm typing: instability of CAG trinucleotide repeats in the human androgen receptor gene. ***Nat Genet.*** 1994 Aug;7(4):531-5. PMID: 7951325
2. Baker SM, Bronner CE, Zhang L, Plug A, Robatzek M, Warren G, Eilliott EA., **Yu J**,AshleyT, Arnheim N, Flavell RA. and Liskay RM. Mutation in the mouse DNA mismatch repair gene PMS2 is associated with abnormal chromosome synapsis in male meiosis. ***Cell*** 1995 Jul 28;82(2):309-19. PMID: 7628019.
3. **Yu J**, Lazzeroni L, Qin J, Huang MM, Navidi W, Erlich H, Arnheim N. Individual variation in recombination among human males. ***Am J Hum Genet*** 1996 Dec;59(6):1186-92. PMID: 8940263. PMCID: PMC1914855
4. Waldman T, Zhang Y, Dillehay L, **Yu J**, Kinzler KW, Vogelstein B, Williams J. Cell-cycle arrest versus cell death in cancer therapy. ***Nat Med*** 1997 Sep;3(9):1034-1036. PMID: 9288734.
5. He TC, Zhou S, da Costa LT, **Yu J**, Kinzler KW, Vogelstein B. A simplified system for generating recombinant adenoviruses. ***Proc Natl Acad Sci USA*** 1998 Mar 3;95(5):2509-2514. PMID: 9482916. PMCID: PMC19394
6. Cahill DP, Lengauer C, **Yu J**, Riggins G., Willson JK, Markowitz SD, Kinzler KW, Vogelstein B. Mutations of mitotic checkpoint genes in human cancers. ***Nature*** 1998 Mar 19;392(6673):300-303. PMID: 9521327
7. da Costa LT, He TC, **Yu J**, Sparks A., Morin PJ, Polyak K, Laken S, Vogelstein B, Kinzler KW. CDX2 is mutated in a colorectal cancer with normal APC/beta-catenin signaling. ***Oncogene*** 1999 Sep 2, 18(35):5010-5014. PMID: 10490837
8. Velculescu VE, Madden SL, Zhang L, Lash AE, **Yu J**, Rago C, Lal A., Wang CJ, Beaudry GA., Ciriello KM, Cook BP, Dufault MR, Ferguson AT, Gao Y, He TC, Hermeking H, Hiraldo SK, Hwang PM, Lopez MA, Luderer HF, Mathews B, Petroziello JM, Polyak K, Zawel L, Zhang W, Zhang X, Zhou W, Haluska FG, Jen J, Sukumar S, Landes GM, Riggins GJ, Vogelstein B, Kinzler KW. Analysis of human transcriptomes. ***Nat Genet***1999 Dec;23(4):387-388. PMID: 10581018. DOI: 10.1038/70487.
9. **Yu J**, Zhang L, Hwang PM, Rago C, Kinzler KW, Vogelstein B. Identification and classification of p53-regulated genes. ***Proc Natl Acad Sci USA*** 1999 Dec 7;96(25):14517-22. PMID: 10588737. PMCID: PMC24468
10. Shih IM, **Yu J**, He TC, Vogelstein B, Kinzler KW. The beta-catenin binding domain of adenomatous polyposis coli is sufficient for tumor suppression. ***Cancer Res****.* 2000 Mar 15;60(6):1671-6. PMID: 10749138.
11. Flatt PM, Polyak K, Tang LJ, Scatena CD, Westfall MD, Rubinstein LA., **Yu J**, Kinzler KW, Vogelstein B, Hill DE, Pietenpol JA. p53-dependent expression of PIG3 during proliferation, genotoxic stress, and reversible growth arrest. ***Cancer Lett***2000 Aug 1;156(1):63-72. PMID: 9690621.

1. Zhang L, **Yu J**, Park BH, Kinzler KW, Vogelstein B. Role of BAX in the Apoptotic Response to Anticancer Agents. ***Science***. 2000 Nov 3;290(5493):989-992. PMID: 11062132.
2. Donald SP, Sun XY, Hu CA, **Yu J**, Mei JM, Valle D, Phang JM. Proline oxidase, encoded by p53-induced gene-6, catalyzes the generation of proline-dependent reactive oxygen species. ***Cancer Res****.* 2001 Mar 1;61(5):1810-5. PMID: 11280728.
3. **Yu J**, Zhang L, Hwang PM, Kinzler KW, Vogelstein B. PUMA induces the rapid apoptosis in colorectal cancer cells. ***Mol. Cell*** 2001 Mar 30;7(3):673-82. PMID: 11463391.

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1. Zhang L, **Yu J**, Willson JK., Markowitz SD, Kinzler KW, Vogelstein B. Short Mononucleotide Repeat Sequence Variability in Mismatch Repair-deficient Cancers. ***Cancer Res****.* 2001 May 1;61(9):3801-3805. PMID: 11325855.
2. Hwang PM, Bunz F, **Yu J**, Rago C, Chan TA, Murphy MP, Kelso GF, Smith RA, Kinzler KW, Vogelstein B. Ferredoxin reductase affects p53-dependent, 5-fluorouracil-induced apoptosis in colorectal cancer cells. ***Nat Med*.** 2001 Oct; 7(10):1111-7. PMID: 11590433.
3. Zawel L, **Yu J**, Torrance CJ, Markowitz S, Kinzler KW, Vogelstein B, Zhou S. DEC1 is a downstream target of TGF-beta with sequence-specific transcriptional repressor activities. ***Proc Natl Acad Sci USA****.* 2002 Mar 5;99(5):2848-2853. PMID: 11880636. PMCID: PMC122436
4. Giannakakou P, Nakano M, Nicolaou KC, O'Brate A., **Yu J**, Blagosklonny MV, Greber UF, Fojo T. Enhanced microtubule-dependent trafficking and p53 nuclear accumulation by suppression of microtubule dynamics. ***Proc Natl Acad Sci USA***. 2002 Aug 6;99(16):10855-60. PMID: 12145320. PMCID: PMC125062
5. **Yu J**, Wang Z, Kinzler KW, Vogelstein B, Zhang L. *PUMA* mediates the apoptotic response to p53 in colorectal cancer cells. ***Proc. Natl. Acad. Sci. USA***2003 Mar100:1931-1936. PMID: 12574499. PMCID: PMC149936.
6. Macip S, Igarashi M, Berggren P, **Yu J**, Lee SW, Aaronson SA. Influence of Induced Reactive Oxygen Species in p53-Mediated Cell Fate Decisions. ***Mol. Cell. Biol*.** 2003 Dec 1;23(23):8576-8585. PMID: 14612402
7. **Yu J\***, Tiwari S, Steiner P, Zhang L. Differential Apoptotic Response to the Proteasome Inhibitor Bortezomib (VELCADETM, PS-341) in Bax-Deficient and p21-Deficient Colon Cancer Cells*.* ***Cancer Biol Ther***. 2003 Nov-Dec;2(6):694-9. \* Co-corresponding author. PMID: 14688479.
8. Kohli M&, **Yu J**&**,** Seaman C, Bardelli A, Kinzler KW, Vogelstein B, Lengauer C, Zhang, L. [SMAC/Diablo-dependent apoptosis induced by non-steroidal anti-inflammatory drugs (NSAIDs) in colon cancer cells.](file:///H:\LZ%20Lab%20Homepage4\Publications%20pdf\Kohli%20et%20al%20PNAS%20revised%20101904.pdf)  ***Proc. Natl. Acad. Sci. USA***. 2004 Nov 30;101(48):16897-902. &equal contribution. PMID: 15557007. PMCID: PMC534714
9. Liu Z, Lu H, Shi H, Du Y, **Yu J**, Gu S, Chen X, Liu K, Hu CA. PUMA Overexpression Induces ROS Generation and Proteosome-mediated Stathmin Degradation in Colorectal Cancer Cells. ***Cancer Res***. 2005 Mar 1;65(5):1647-54. PMID: 15753358

1. Wang H, Qian H, **Yu J**, Zhang X, Zhang L, Fu M, Liang X, Zhan Q, Lin C. Administration of PUMA adenovirus increase sensitivity of esophageal cancer cells to anticancer drugs. ***Cancer Biol Ther****.* 2006 Apr;5(4):380-5. PMID: 16481741
2. Jiang M, Wei Q, Wang J, Du Q, **Yu J**, Zhang L, Dong Z. Regulation of PUMA-by p53 in cisplatin-induced renal cell apoptosis. ***Oncogene*** 2006 Jul 6;25(29):4056-66. PMID: 16491117
3. **Yu J\***, Yue W, Wu B, Zhang L. PUMA Sensitizes Lung Cancer Cells to Chemotherapeutic Agents and Irradiation. ***Clin Cancer Res****.* 2006 May 1;12(9):2928-36. \* Corresponding author. [PMID: 16675590](http://www.ncbi.nlm.nih.gov/pubmed/16675590)
4. Ming LH, Wang P, Bank A, **Yu J,** Zhang L.  PUMA dissociates BAX and Bcl-xL to induce apoptosis in colon cancer cells*.* ***J Biol Chem****.* 2006 Jun 9;281(23):16034-42. PMID: 16608847
5. Hu CA, Donald SP, **Yu J**, Lin WW, Liu Z, Steel G, Obie C, Valle D, Phang JM. Overexpression of proline oxidase induces proline-dependent and mitochondria-mediated apoptosis. ***Mol Cell Biochem***. 2007 Jan;295(1-2):85-92. PMID: 16874462
6. Wu B, Qiu W, Wang P, Yu H, Cheng T, Zambetti GP, Zhang L, **Yu J**. p53-independent Induction of PUMA Mediates Intestinal Apoptosis in Response to Ischemia Reperfusion. ***Gut***. 2007 May;56(5):645-54. PMID: 17127703. PMCID: PMC1942137

1. Wang P, **Yu J** and Zhang L. The nuclear function of p53 is required for PUMA-mediated apoptosis induced by DNA damage. ***Proc Natl Acad Sci USA***. 2007 Mar 6;104(10):4054-9. PMID: 17360476  PMCID: PMC1820707
2. **Yu J**, Wang P, Ming LH, Wood M, Zhang L. SMAC/Diablo mediates the proapoptotic function of PUMA by regulating PUMA-induced mitochondrial events. ***Oncogene***. 2007 Jun 21;26(29):4189-98. PMID: 17237824
3. Ding W, Ni H, Chen X, **Yu J**, Zhang L and Yin XM. A coordinated action of Bax, PUMA, and p53 promotes MG132-induced mitochondria activation and apoptosis in colon cancer cells. ***Mol Cancer Ther****.* 2007 Mar;6(3):1062-9. PMID: 17363499. DOI: 10.1158/1535-7163.MCT-06-0541
4. Yue W, Dacic S, Sun Q, Landreneau R, Guo M, Zhou W, Siegfried JM, **Yu J**, Zhang L. Frequent inactivation of RAMP2, EFEMP1 and Dutt1 in lung cancer by promoter hypermethylation.***Clin Cancer Res****.* 2007 Aug 1;13(15 Pt 1):4336-44**.** PMID: 17671114.   DOI: 10.1158/1078-0432.CCR-07-0015
5. Sun Q, Sakaida T, Yue W, Gollin SM, **Yu J**. Chemosensitization of Head and Neck Cancer Cells by PUMA. ***Mol Cancer Ther****.* 2007 Dec;6(12):3180-8. PMID: 18089712. DOI: 10.1158/1535-7163.MCT-07-0265
6. Yue W, Sun Q, Dacic S, Landreneau RJ, Siegfried JM, **Yu J**, Zhang L. Downregulation of Dkk3 activates beta-catenin/TCF-4 signaling in lung cancer. ***Carcinogenesis***. 2008 Jan;29(1):84-92. PMID: 18048388. DOI: 10.1093/carcin/bgm267
7. Bank A, Wang P, Du C, **Yu J**, Zhang L. SMAC mimetics sensitize nonsteroidal anti-inflammatory drug-induced apoptosis by promoting caspase-3-mediated cytochrome c release. ***Cancer Res***. 2008 Jan 1;68(1):276-84. PMID: 18172320. DOI: 10.1158/0008-5472.CAN-07-5242
8. Luo W, Liu J, Li J, Zhang D, Liu M, Addo JA, Patil S, Zhang L, **Yu J**, Buolamwini JK, Chen J, Huang C.Anti-cancer effects of JKA97 are associated with its induction of cell apoptosis via a Bax-dependent, and p53-independent pathway. ***J Biol Chem***. 2008 Mar 28;283(13):8624-33. PMID: 18218619.  PMCID: PMC2417161
9. Qiu W, Carson-Walter EB, Liu H, Epperly M, Greenberger JS, Zambetti, GP, Zhang L, **Yu J**. PUMA regulates intestinal progenitor cell radiosensitivity and gastrointestinal syndrome. ***Cell Stem Cell***. 2008 Jun 5;2(6):576-83. PMID: 18522850. PMCID: PMC2892934 (Previewed in ***Cell Stem Cell*** 2: 517-518, 2008 and highlighted in ***Nature Biotechnology***26 (7): 777, 2008).
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11. Ming L, Sakaida T, Yue W, Jha A, Zhang L, and **Yu J**. Sp1 and p73 activate PUMA following serum starvation. ***Carcinogenesis****.* 2008 Oct;29(10):1878-84. PMID: 18579560.   PMCID: PMC2722853.
12. Bank A, **Yu J**, Zhang L. NSAIDs Downregulate Bcl-XL and Dissociate BAX and Bcl-XL to Induce Apoptosis in Colon Cancer Cells. ***Nutrition and Cancer***. 2008;60 Suppl 1: 98-103. PMID: 19003586. DOI: 10.1080/01635580802381261
13. Sun Q, Ming L, Thomas SM, Wang Y, Chen Z, Ferris RL, Grandis JR, Zhang L, **Yu J.** PUMA mediates EGFR tyrosine kinase inhibitor-induced apoptosis in head and neck cancer cells. ***Oncogene***. 2009 Jun 18;28(24):2348-57. Epub 2009 May 4. PMID: 19421143 PMCID: PMC2872091
14. Qiu W, Carson-Walter EB, Kuan SF, Zhang L, **Yu J**. PUMA Suppresses Intestinal Tumorigenesis in Mice. ***Cancer Res***. 2009 Jun 15;69(12):4999-5006. Epub 2009 Jun 2. PMID: 19491259. PMCID: PMC2872079
15. Wang P, Qiu W, Dudgeon C, Liu H, Huang C, Zambetti GP, **Yu J**, Zhang L. PUMA is directly activated by NF-kB and contributes to TNF-a-induced apoptosis. ***Cell Death Differ***. 2009 Sep;16(9):1192-202. Epub 2009 May 15. PMID: 19444283. PMCID: PMC2872087
16. Yue W , Sun Q, Landreneau R, Wu C, Siegfried JM, **Yu J**, Zhang, L. Fibulin-5 suppresses lung cancer invasion by inhibiting matrix metalloproteinase-7 expression. ***Cancer Res***. 2009 Aug 1;69(15):6339-46. Epub 2009 Jul 7. PMID: 19584278. PMCID: PMC2719681

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4. Yu H, Shen H, Yuan Y, Xu F, Hu X, Zhang L, **Yu J**, Zambetti G, Cheng T. Deletion of Puma protects hematopoietic stem cells and confers long-term survival in response to high-dose gamma-irradiation. ***Blood***. 2010 Apr 29;115(17):3472-80. Epub 2010 Feb 22. PMID: 20177048  PMCID: PMC2867261.
5. Qiu W, Wang X, Leibowitz B, Liu H, Barker N, Okada H, Oue N, Yasui W, Clevers H, Schoen RE, **Yu J\***, Zhang L. Chemoprevention by nonsteroidal anti-inflammatory drugs eliminates oncogenic intestinal stem cells via SMAC-dependent apoptosis. ***Proc Natl Acad Sci U S A***. 2010 Nov 16;107(46):20027-32. Epub 2010 Nov 1. \* Co-corresponding author. PMID: 21041628, PMCID: PMC2993406.
6. Dudgeon C, Wang P, Sun X, Peng R, Sun Q, **Yu J**, Zhang L. PUMA Induction by FoxO3a Mediates the Anticancer Activities of the Broad-Range Kinase Inhibitor UCN-01. ***Mol Cancer Ther.*** 2010 Nov;9(11):2893-902. Epub 2010 Oct 26. PMID: 20978166.  PMCID: PMC2978764.
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**Invited and peer reviewed reviews, perspectives, commentaries and book chapters (22)**

Review Articles (17)

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2. **Yu J** and Zhang, L**.** Apoptosis in human cancer cells. ***Curr Opin Oncol****.* 2004 Jan;16(1):19-24. Review. PMID: 14685088.
3. **Yu J**\* and Zhang L. The transcriptional targets of p53 in Apoptosis control. ***Biochem Biophys Res Commun****.* 2005 Jun 10;331(3):851-8. Review. (one of the top 3 downloaded papers of the journal in 2005). PMID: 15865941. \* Corresponding author.
4. Zhang L, Ming LH, **Yu J**. BH3 mimetics to improve cancer therapy; mechanisms and examples. ***Drug Resist Updat****.* 2007 Dec;10(6):207-17. Review. PMID: 17921043. PMCID: PMC2265791
5. Dudgeon C and **Yu J**. Green Tea and PUMA: A Deadly Combination? ***Cancer Biol Ther***. 2008 May 21;7(6). Commentary. PMID: 18509259.
6. **Yu J**\* and Zhang L**.**  PUMA, A Potent Killer With or Without p53. ***Oncogene*** 2008 Dec Suppl 1: S71-S83. Review. \* Co-corresponding author. PMID: 19641508. PMCID: PMC2860432
7. **Yu J**.PUMA Kills Stem Cells to Stall Cancer? ***Mol Cell Pharmacol*** 2009; 1(3): 112-118. Commentary. PMID: 20046541. PMCID: PMC2800379
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11. **Yu J**. Intestinal stem cell injury and protection during cancer therapy. ***Transl Cancer Res*** 2013;2(5):384-396. doi: 10.3978/j.issn.2218-676X.2013.07.03. PMID: 24683536. PMCID: PMC3966653.
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16. Fletcher R, Wang YJ, Schoen RE, Finn, OJ, **Yu J**, Zhang L. (2017) Colorectal cancer prevention: immune modulation taking the stage. ***Biochimica et biophysica acta.*** 2018; 1869(2):138-148. PMID: 29391185. PMCID: PMC5955808. DOI: 10.1016/j.bbcan.2017.12.002.
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Book Chapters (5)

1. Dudgeon C, Qiu W, Sun QH, Zhang L, **Yu J**. (2008) “Transcriptional Regulation of Apoptosis” in ***Essentials of Apoptosis*** (2nd Edition, ed. Yin, X.M. and Dong, Z., Humana Press), book chapter.
2. **Yu J**\* and Zhang L. (2008) ***Encyclopedia of Cancer*** (2nd Edition, Springer-Verlag GmbH, Berlin, Heidelberg), book chapter. \* Corresponding author.
3. Brown M, He K and **Yu J** (2013)“SMAC IAP Addiction in Cancer” in **“*Cell Death Signaling in Cancer Biology and Treatment***” (ed. Yin, X.M. and Dong, Z with section Ed. Johnson D. Springer).
4. **Yu J**\* and Zhang L (**2015**) “Apoptotic Pathways in Cancer” in ***Systems Biology of Cancer*** (1st Edition, ed. Thiagalingam T, Cambridge University Press), book chapter. \* Co-corresponding author.
5. Brian Leibowitz, Liang Wei, Xinwei Wang, **Jian Yu**. Methods for studying radiation-induced acute intestinal damage and regeneration in mice (Online book chapter for NIH/NIAID CMCR program, completed 2/2017)

# **PATENTS AND INVENTION DISCLOSURES:**

Patent

**Jian Yu**, Kenneth W. Kinzler, Bert Vogelstein. JFY1 Protein Induces Rapid Apoptosis, International Application, WO 02/064790 A3

**Jian Yu**, Kenneth W. Kinzler, Bert Vogelstein. JFY1 Protein Induces Rapid Apoptosis, US Patent App. 10/450,436, 2004

Invention Disclosure

**Jian Yu**, Lin Zhang, Kenneth W. Kinzler, Bert Vogelstein. PUMA Mediates the Apoptotic Response to p53 (JHU Ref #4140).

Lin Zhang, Kenneth Kinzler, **Jian Yu**, Bert Vogelstein. A Cell Line with Targeted Deletions of both Bax and p21 (JHU Ref#4312)

Lin Zhang, Manu Kohli, **Jian Yu**, Bert Vogelstein, Christoph Lengauer, Kenneth Kinzler. SMAC KO Lines for Drug Discovery (JHU Ref#4651)

**Jian Yu** and Lin Zhang. Somatic knockout or knockin colon cancer cell lines on cell death regulators as research tools

miR-21 KO RKO cells (University of Pittsburgh No.02324)

PUMA KO DLD1 cells (University of Pittsburgh No. 02383)

PUMA p53-binding site KO lines (University of Pittsburgh No. 02384)

Beclin-1 knockin HCT 116 cells (University of Pittsburgh No. 03685)

Bid knockout HCT 116 cells (University of Pittsburgh No. 03686)

Caspase-3 knockout HCT 116 cells (University of Pittsburgh No. 03687)

FADD knockout HCT 116 cells (University of Pittsburgh No. 03688)

Flag-p73 knockin HCT 116 cells (University of Pittsburgh No. 03689)

Robert William Sobol Jr., and **Jian Yu**. Apoptosis deficient LN428 cells (University of Pittsburgh No.02811)

# **ONGOING RESEARCH SUPPORT:**

R01CA215481 Yu (PI) 01/01/18-12/31/22

NCI/NIH $2,344,430 ($1,505,000 direct)

“Translation addiction and targeting in colon cancer”

The goal of the project is to explore molecular mechanism underlying oncogenic translation in colon cancer and using novel combinations of non-genotoxic agents to overcome therapeutic resistance of RAS/RAF mutant colon cancer.

Role: PI (25%)

U19-A1068021 Greenberger (PI) 09/01/15-08/31/20

NCI/NIAID $1,617,000 ($1,050,000 direct, Project 4)

Signature-Directed, Sequential Delivery of Radiation Mitigators

Project 4-Targeting Intestinal Stem Cell Dysfunctions in Radiation Mitigation

Role: Project 4 leader/PI (22.5%)

U19-A1068021 Greenberger (PI) 09/01/15-08/31/20

NCI/NIAID

CMCR Coordinating Center CORE

Role: Co-investigator (5%)

IR01 CA172136-01A1 Zhang (PI) 04/01/13-03/31/18

# NCI/NIH

Bid-Mediated Killing of Oncogenic Stem Cells in Chemoprevention

Co-investigator (8%)

1R01CA203028-01 Zhang (PI) 12/09/15-11/30/20

Role of Mcl-1 degradation in colorectal cancer therapy

Co-investigator (5%)

CMCR Pilot (U19) Caudell (PI) 08/01/17-07/31/18

NIAID/NIH

“Advanced Immunophenotyping of the Gastrointestinal Mucosal Immune System in Irradiated Rhesus”

My role is to discovery biomarkers in intestinal stem cell permeability and mucosal immunity in irradiation non-human primates, and how that might be correlated with long-term survival.

Role: Co-investigator (3%)

**PENDING RESEARCH SUPPORT:**

# **COMPLETED RESEARCH SUPPORT:**

TOB-14 XXX601249XXX Levine (PI) 01/01/15-12/31/18

# PA Dept of Health $206,000 (direct only) (Project)

Tobacco Phase 14 Formula Funds

Improving cancer survivorship through normal tissue protection

Project PI (20%)

R01CA106348-07 Zhang (PI) 06/04/10-04/30/16

# NCI/NIH

# PUMA-mediated apoptosis in human cancer cells

Co-investigator (5%)

# U01DK085570 Yu (PI) 09/01/09-08/31/15

# NIH/NIDDK $1,893,750 ($1,250,000 direct)

# Intestinal Stem Cell Survival and Renewal Coordinately Regulated by PUMA and p21

3U01DK08557-05S2 Yu (PI) 09/01/14-08/31/15

# NIH/NIDDK $73,000 ($47,400 direct)

Radiation responses of ISCs and their niche

RGS-10-124-01-CCE Yu (PI) 07/01/10-06/30/15

ACS Research Scholar Award $720,000 ($600,000 direct)

Molecular Mechanisms of Radiation-induced Intestinal Injury

IBD-0334R Liu (PI) 01/01/14-12/31/14

Broad Foundation $20,000 ($18,000 direct)

Rectal Spectral markers for the Surveillance of Colorectal Cancer in Patients with Ulcerative Colitis

Co-investigator (4%)

3U01DK08557-05S Yu (PI) 09/01/13-08/31/14

# NIH/NIDDK $79,430 ($52,000 direct)

Radiation responses of ISCs and their niche

(Effort concurrent with parental UO1)

1R01CA129829-05 Yu (PI) 08/01/08-05/31/14 (NCE)

NIH/NCI $1,571,800 ($1,037,500 direct)

Role of PUMA in EGFR Targeted Therapy in HNSCC

3U01DK08557-04S1 Yu (PI) 09/01/12-08/31/13

NIH/NIDDK $65,575 ($43,000 direct)

ISCC Niche and Translational Pilot projects

(Effort concurrent with parental UO1)

1R43GM099213-01A1 Jay and Sobol (PI) 03/15/12-03/14/13

NIH $37,104 ($24,491 direct)

Discovery Tools for Chemotherapy Resistance to Cell Death

Co-investigator

U19-A1068021-06 and 07 Greenberger (PI) 09/01/10-08/31/12

NIH/NIAID $125,000 ($82,505 direct)

University of Pittsburgh Center for Medical Countermeasures Against Radiation

Developmental Research Program

Small molecule PUMA and CDK inhibitors for Radiation Mitigation

Co-investigator

3U01DK08557-03S Yu (PI) 09/01/11-08/31/12

NIH/NIDDK $50,000 ($33,000 direct)

ISC Apoptosis and Protection in Experimental Colitis

(Effort concurrent with parental U01)

YCSA Award 32029 Yu (PI) 07/01/04-06/30/12

FAMRI $545,500 ($500,000 direct)

Transcriptional regulation of PUMA in Lung Cancer

3U01DK08557-02S1 Yu (PI) 09/01/10-08/31/11

NIH/NIDDK $75,000 ($49,505 direct)

Transcriptional Responses of the CBCs to Gamma-irradiation

(Effort concurrent with parental U01)

The Hillman Fellow Yu (PI) 01/01/08-12/31/10

The Hillman Foundation $55,000 (direct)

Modulating Apoptosis for Cancer Therapy

U19-A1068021 Greenberger (PI) 09/01/08-08/31/10

NIH/NIAID $173,388 ($116,760 direct)

University of Pittsburgh Center for Medical Countermeasures Against Radiation

Developmental Research Program

Development of small molecules for Intestinal Radioprotection

Co-investigator

R01CA106348 Zhang (PI) 04/01/04-03/31/10

NIH/NCI $132,581 ($89,280 direct)

Apoptotic response to DNA damage initiated by PUMA

Co-investigator

ACGT Young Investigator Award Yu (PI) 07/01/05-06/30/09

Alliance for Cancer Gene Therapy $545,000 ($500,000 direct)

PUMA-based gene therapy in Lung Cancer

1P50 CA097190-01A1 Grandis (PI) 09/01/04-06/31/08

NIH/NCI $206,644 ($138,224 direct)

Head and Neck SPORE, Career Development Award

PUMA in Head and Neck Cancer

Co-investigator

Innovative Cancer Research Award Yu (PI) 07/01/04-06/30/06

The Hillman Foundation $25,000 Direct

The role of PUMA in Modulating Therapeutic Responses of Lung Cancer

Research Contract Yu (PI) 09/01/03-08/31/04

ArQule Inc. $141,537, ($108,867 direct)

p53-independent regulation of PUMA for drug development

GM Scholar Award Zhang (PI) 07/01/03-06/31/05

General Motors Cancer Research Foundation $17,280 ($16,000 direct)

Apoptosis control and response to anticancer agents in human cancer cells

Co-investigator

Competitive Medical Research Fund Yu (PI) 07/01/03-06/31/04

University of Pittsburgh School of Medicine$25,000 (direct only)

PUMA in apoptosis induced by DNA-damaging anticancer agents