<u>STEVEN MONROE LIPKIN</u> <u>CURRICULUM VITAE</u>

SUMMARY

I am a clinical geneticist who has been performing clinical, translational and mechanistic studies for more than two decades. It has been my privilege to have made contributions to germline colorectal cancer and to B cell genetic predisposition that have been translated clinically, and to the field of cancer prevention. During that time, I have published in many well cited journals, including *Cell, Cell Stem Cell, Nature Biotechnology, Nature Genetics* and *Science,* among others. I have participated in multiple American Society for Clinical Oncology and other non-profit organization committees to advise public policy on genetic testing. I recently authored a well-received popular book, *The Age of Genomes*, to help educate the lay public on advances and potential roadblocks to the realization of public health genomics. Currently, I am Vice Chair for Research in the Weill-Cornell Department of Medicine, Director of the Weill-Cornell Program in Mendelian Genetics, Co-Program Leader for the Cancer Genetics, Epigenetics and Systems Biology Program in the Meyer Cancer Center, and Director of the Weill Cornell Medical College Adult and Cancer Genetics Clinic, where I practice as a Clinical Geneticist.

A. GENERAL INFORMATION

Required Information:

Name: First, Middle,	Steven M. Lipkin, MD, PhD
Last	
Office address:	413 East 69 th Street Lab - 7 th Floor Room 702
	New York, NY 10021
Office telephone:	646-962-6333
Work Email:	stl2012@med.cornell.edu
Citizenship:	USA

B. EDUCATIONAL BACKGROUND

1. <u>Academic Degree</u>:

Degree	Institution Name	Dates attended	Year Awarded
ВА	Princeton University Princeton NJ	9/1982-6/1986	1986
MD/PhD	University of California La Jolla, San Diego	9/1986-6/1995	1995

2. <u>Post-doctoral training</u>:

Title	Institution	Dates held

Internship and Residency (Medicine)	Duke University Medical Center Durham, NC	1995-1997
Clinical Genetics Fellowship	National Human Genome Research Institute (NIH) Bethesda, MD	1997-2000
Post-doctoral fellow	National Human Genome Research	2000-2001
(Francis Collins Post-doc	Institute	
Advisor)	(NIH) Bethesda, MD	

C. LICENSURE, BOARD CERTIFICATION, MALPRACTICE

1. <u>Licensure</u>:

a. State	Number	Date of issue	Date of last registration
California	A75820	07/2001	04/2008 (on leave)
New York	252237	04/2009	04/2017

b. If no license:1. 1. Do you have a temporary certificate?	N/A
Have you passed the examination for foreign medical school graduates?	N/A

2. Board Certification

Full Name of Board	Certificate #	Dates of Certification (mm/dd/yyyy) –
American Board of Medical Genetics (ABMG)	99094	4/30/1999

D. PROFESSIONAL POSITIONS AND EMPLOYMENT

1. Academic positions

Title	Institution name and location	Dates held
Assistant Professor of Medicine	Department of Medicine University of California, Irvine Irvine, CA	2001-2007
Associate Professor of Medicine, with Tenure	Department of Medicine University of California, Irvine Irvine, CA	2007-2009

Associate Professor of Genetic	Department of Genetic Medicine	3/01/2009-Present
Medicine	Weill Cornell Medical College	
	New York, NY	
Associate Professor of Medicine	Department of Medicine	3/01/2009-2/29/2015
	Weill Cornell Medical College	
	New York, NY	
Adjunct Professor of Medicine,	School of Basic Medical Sciences, Beijing	2013-2018
	University	
Professor of Medicine	Department of Medicine	03/01/2015-Present
	Weill Cornell Medical College	
	New York, NY	
Gladys and Roland Harriman	Department of Medicine	4/2016-Present
Associate Professor of Medicine	Weill Cornell Medical College	
	New York, NY	

2. Hospital positions

Title	Institution	Dates held
Attending Physician	New York Presbyterian Hospital New York, NY	03/01/2009-Present
Associate Attending	Memorial Sloan Kettering Cancer Center New York, NY	03/01/2014-2017
Associate Member	Memorial Sloan Kettering Cancer Center New York, NY	03/01/2014-2017

3.

4. <u>Other Employment</u> N/A

E. <u>EMPLOYMENT STATUS</u>

Name of Employer: Weill Cornell Medical College, Cornell University

Employment Status: Full-time salaried by Weill Cornell Medical College, Cornell University

F. INSTITUTIONAL/HOSPITAL AFFILIATION

1. Primary Hospital Affiliation:	New York Presbyterian
2. Other Hospital Affiliations:	Memorial Sloan Kettering Hospital
3. Other Institutional Affiliations:	N/A

G. PERCENT EFFORT AND INSTITUTIONAL RESPONSIBILITIES

WCMC ANTICIPATED % EFFORT	(%)	Does the activity involve WCMC students/researchers? Yes
TEACHING	10%	Yes
CLINICAL	20%	Yes
ADMINISTRATIVE	10%	Yes
RESEARCH	60%	Yes
TOTAL	100%	

Research Activity / Key Contributions

Colorectal cancer (CRC) research has been a major focus of my research. One program that has successfully been clinical translated is the cloning and mechanistic characterization of *MutL Homologue 3 (MLH3). MLH3* is a DNA mismatch repair gene that is a Mendelian cause of increased germline colorectal cancer risk. Mechanistically, my lab also showed that functional redundancy between *MLH3* and another DNA mismatch repair gene *PMS2* resolved a long-standing paradox observed in clinical cancer genetics: why *MLH1* is a common cause of Lynch syndrome while *PMS2* and *MLH3* are less commonly mutated.

Another highlight of my colorectal cancer research program that has successfully been clinically translated is writing the computational algorithm MAPP-MMR. MAPP-MMR is a computational tool that medical geneticists, genetic counselors and oncologists in North America, Europe, Japan and Australia use to diagnose Lynch syndrome missense variants as mutations or benign polymorphisms, and continuations of this work were published in *Nature Biotechnology* with commentaries on this work in *Nature* and *Nature Methods*. I have continued this line of investigation that I started several years before and worked to improve interpretation of human whole exome coding variants as mutations or benign polymorphisms. This work incorporates both structural and functional studies to improve variant interpretation, and has been published in several journals, including *Nature Biotechnology* with commentaries on this work in *Nature and Nature Methods*.

I have also continued a long term line of research into the mechanisms of colorectal cancer tumorigenesis and progression. This has provided new insights into the role of colorectal cancer initiating cells, Notch signaling, miR-34a, miR-23a, miR-1269, TGF-Beta and EGFR signaling in these mechanisms. In particular, we have developed novel experimental mouse models to study colorectal cancer progression, metastasis and chemoresistance, for which WCMC has filed US patents. This work has been published in *Journal of Clinical Investigation, Nature Biotechnology*, other journals and featured in the Biocentury biotechnology industry news publication SciBx and an associated patent.

For the past several years an important focus of my research has been genetic predisposition to Monoclonal Gammopathy of Undetermined Significance and Multiple Myeloma. My lab also has played important roles in the identification of several germline B cell malignancy predisposition genes, including (most recently) KDM1A, as well as PAX5, ETV6 ARID1A, USP45 and DIS3.

1. <u>Administrative Activities (duties, dates)</u>: Describe administrative activities in the table below. To document administrative activities more extensively use a supplemental statement, refer to it here and attach it to the CV.

Administrative Activity	Date
Administrative duties	
Director, Adult and Cancer Genetics Clinic, UC Irvine Medical Center	2001-2009
Faculty, UC Irvine Genetic Counselor Masters Degree Training Program	2001-2009
Cancer Center Research American Cancer Society Seed Grant Review Committee	2002-2008
Organizer, Cancer Center Symposium, UCI "Human Genetic Variation: Merging	2003
Genetics with Clinical Medicine."	
UC Irvine Genetic Epidemiology Tenure Track Faculty Search Committee	2003
Genetic Epidemiology Research Institute Seminar and Annual Conference	2004-2008
Organizer	
Cancer Center Translational Research Grant Review Committee	2005-2008
Chair, Session, Novel Technologies in Cancer Research, UCI Cancer Center Annual	2005
Retreat.	
UC Irvine Hematology-Oncology Tenure Track Faculty Search Committee	2005
Search Committee for Chair, UCI Division of Medical Genetics	2005
UCI Institutional Biosafety Committee (IBC)	2005-2008
UCI School of Medicine Research Seed Grant Review Committee.	2006-2008
Executive Board, Genetic Epidemiology Research Institute, UC Irvine	2006-2008
Program in Pharmaceutical Sciences Tenure Track Faculty Search Committee	2006
Chair, GI Cancer Prevention Session at UCI Chao Family Comprehensive Cancer	2006
Center Chemoprevention Retreat	
Co-Chair, UCI Chao Family NCI Designated Comprehensive Cancer Center Program	2007-2009
in Population Sciences	
Director, Weill Cornell-NYPH Center for Advanced Digestive Care Colorectal Cancer	2009-2011
Biobank	
Faculty, NYPH/CUMC CME Review Courses for Gastroenterology	2009-2014
Interviewer, Applicants for Internal Medicine Residency Research Program Track	2009-2012
Faculty, WCMC Department of Medicine Annual Report Task Force	2011
Chair, search committees, NYPH CADC Genetic Counselor Recruitment	2011-2013
Member, Dept of Medicine Resident Research Award Selection Committee	2011-2012
Member, NYPH Oncology Strategic Plan-Personalized Medicine	2012-
Member, Department of Medicine Midcareer mentoring task force	2012-2013
Search Committee, Clinical and Research Directors NYPH/WCMC Department of	2014
Pediatrics Division of Medical Genetics	
Director, Center for Advanced Digestive Care Hereditary GI Cancer Registry and	2013
WCMC Neurosurgery Colloid Cyst Registries	
WCMC Cancer Center, Division of Oncology and Department of Medicine Faculty	2013
Recruitment	
Member, Department of Medicine Grand Rounds Speaker Selection Committee	2013-2014
Faculty, WCMC Oncology Board Review Course	2013-2014
Member, Search Committee WCMC Center for Metabolism	2014
WCMC/NYPH-ARCH Electronic Medical Record Research Data Repsitory (RDR)	2014
Scientific Advisory Board member	
WCMC Medical Student Teaching" Cancer Genetics"	2015

Member, American Society for Clinical Investigation (ASCI)	2015- Present
Member, American Association of Physicians (AAP)	2015- Present
Vice Chair for Basic and Translational Research, Department of Medicine.	2015
Director, Weill-Cornell Medicine Program in Mendelian Genetics	2015-Present
Co-Program Leader, Weill-Cornell Meyer Cancer Center Program in Genetics,	2015-Present
Epigenetics and Systems Biology	
Chair, WCM Genetics Faculty Initiative Committee	2016
Member, Cornell Ithaca Genome Biology Initiative Committee	2016
Co-Organizer, 2 nd Department of Medicine Research Retreat	2017
Co-Director, Department of Medicine Research Fund for Future Program	2017
Co-Director, Department of Medicine Seed Grants Program	2017
Vice Chair for Research, Department of Medicine.	2018

EXTRAMURAL PROFESSIONAL RESPONSIBILITIES

Activity / Responsibility	Dates
Advisory Board Member, NCI Molecular Epidemiology of Colon Cancer	2003-2012
Program	
Peer Reviewer for journals New England Journal of Medicine, Nature	2004-Present
Genetics, Nature Communications, Journal of the National Cancer	
Institute, Cell Stem Cell, Journal of Clinical Oncology, Cancer Research,	
Cancer Prevention Research, Gastroenterology, Oncogene, Human	
Molecular Genetics, Cancer Epidemiology, Biomarkers and Prevention,	
Human Mutation and others.	
Member, American ASCO Cancer Education Coordinating Committee	2006-2008
Member, American Society for Clinical Oncology (ASCO) Scientific	2006-2008
Program Committee	
Member, NCI and Lance Armstrong Foundation Adolescent and Young	2006-2010
Adult Oncology Program Review Group (PRG)	
Member, US FDA Clinical and Molecular Genetics Panel	2007-2013
Advisory Board Member, NCI Colorectal Cancer Collaborative Family	2007-2013
Registry Network (CCFR)	
Ad hoc Grant Reviewer, NCI Study Section Cancer Epidemiology,	2007-2008
Prevention and Control E	
Ad hoc Grant Reviewer, Department of Defense CDRP Prostate Cancer	2007
Program	
Ad hoc Grant Reviewer ,SEP R01 and P01 RFA "Stem Cells and Cancer"	2008
Editorial Board, Cancer Prevention Research Journal	2008-2013
Present Chair, Correlative Sciences Committee, NCI DCP "A Phase IIa	2009-2013
Randomized, Double-Blind Trial of Erlotinib in Inhibiting EGF Receptor	
Signaling in Aberrant Crypt Foci of the Colon"	
Ad hoc Grant Reviewer, NCI GI SPORE Grants	2010
Ad hoc Grant Reviewer, Department of Defense IDEA Awards	2011
Member. PREVENT SEP, NCI Division of Cancer Prevention	2011-2013
Member, SEP Repeat Ad hoc NCI SBIR/STTR Cancer Diagnostics and	2012-2013
Treatments (CDT)	
Ad hoc Reviewer, NCI Provocative Questions Special Emphasis Panel	2012-2013
Ad hoc Grant Reviewer, DeGregorio Foundation	2012-2014

	2012
Reviewer Cancer UK	2012
Member, U54 NCI BETTRNet Barrett's Esophagus Network Special	2012
Emphasis Panel	
Chair, Correlative Sciences Committee, NCI SWOG S8020 Phase III trial	2012-Present
DFMO/Sulindac for Colon Adenoma and Second Promary Prevention Trial	
Chair, Correlative Sciences Committee, NCI DCP Phase IIa trial "Naproxen	2013-Present
for Lynch Syndrome Chemoprevention."	
Member, -ASCO Cancer Prevention Committee CIGNA Taskforce ASCO	2013
President Cliff Hudis, ASCO Chief Medical Officer Richard Schilsky	
Member, ASCO Cancer Prevention Committee and Cancer Genetics sub-	2012-2013
committee	
Member, NCI R03 and R21 SEP Reviewer	2012-2013
Ad hoc Reviewer, member NCI Tumor Cell Biology (TCB) Study Section	2013
June 2013	
Ad hoc Grants Program Reviewer member, Commonwealth of	2013
Pennsylvania Grant Review	
Member, ASCO University Clinical Cancer Genetics Program Committee	2013-2014
Chartered Reviewer and Member, NCI Study Section "Cancer Etiology	2005-2010
Principal Investigator, Molecular Epidemiology of Non-Small Cell Lung	2014-2016
Cancer (MENSCH) consortium.	
Member, AACR Annual Meeting Program Committee	2015
Member, NCI Division of Cancer Prevention PREVENT Cancer Program	2015
External Advisory Board	
Chair, NCI R15 Tumor Cell Biology Study Section	2015
Member, Ad hoc reviewer, NCI Cancer Genetics Study Section	2015
Member, SEP Repeat Ad hoc NCI SBIR/STTR Cancer Diagnostics and	2015
Treatments (CDT)	
NCI Cancer Genetics Study Section ad hoc member	2016-2018
NCI Division of Cancer Prevention PREVENT Program External Advisory	2016-2017
Board	
NCI Tumor Cell Biology Study section ad hoc reviewer	2017
NCI Provocative Questions ad hoc reviewer	2017
Member, Tumor Cell Biology (TCB) Study Section	2018-2021

Selected Invited Lectures and Oral Presentations

University of Michigan Department of Medicine Grand Rounds "MLH3: A	2004
Novel Inherited Cause of atypical HNPCC"	
Hereditary Hematological Malignancies Conference, Creighton University,	2002
Omaha NE.	
"Genomic Technologies for Hereditary Colorectal Cancer and Acute	
Myeloid Leukemia Clustering."	
Chao Family NCI Designated Comprehensive Cancer Center Retreat,	2002
"Applied Genomic Technologies for Cancer Genetics." Palm Spring, CA	
Long Beach Veteran's Administration Hospital Department of Medicine	2003
Grand Rounds, "New Genes in Inherited Colorectal Cancer."	
California Cancer Registry Annual Conference "Sequence variation and	2003
Hereditary Colorectal Cancer."	

Harvard/Partners Center for Genetics and Genomics, Lecture series in	2004
Human Genetics"Inherited Colorectal Cancer: New Genes, Chips and SNPs	
Affymetrix Corporation Lecture series in human diseases "New Colorectal	2004
Cancer Susceptibility SNPs."Please list location	
National Cancer Control Center Technion Translational Cancer Prevention	2004
Workshop Haifa, Israel. "New causes of inherited colorectal cancer	
susceptibility	
Clalit Health Services International Educational Cancer Prevention	2004
Conference, Israel "Genetic Mechanisms in Clinical Cancer Genetics."	
MD Anderson Cancer Center, Blaffer Endowed Lecture, "Hypomorphic	2004
DNA Mismatch Repair Mutations."	
Albert Einstein College of Medicine, "Hypomorphic DNA Mismatch Repair	2004
Mutations."	2005
Deutsche Society for Gastroenterology (DGVS) Annual Meeting Koln,	2005
Germany "Novel Susceptibility Alleles and Prevention Strategies for	
Hereditary Colorectal Cancer." Keynote Address. Koln Germany.	2005
Annual Meeting International Collaborative Group on Inherited Colorectal	2005
Cancer of the Americas Contribution of MSH6 Susceptibility Alleles to	
Hereditary Colorectal Cancer. (Session Chair) San Francisco	2005
"HMCCP Inhibitars "Statins" and Colorastal Cancer Suscentibility	2005
Rivider Infibitors Statins and Colorectal Cancel Susceptibility.	
MD	
American Society for Clinical Oncology (ASCO) Appual Meeting "Dissecting	2006
Risk Modifiers in Inherited Cancer Syndromes " (Chair of Session)	2000
Chicago II	
Ohio State University, DNA Repair Seminar Series, "Hypomorphic MSI in	2006
Mlh3 Mutant Mice". Columbus Ohio.	2000
OSI Pharmaceuticals Lecture Series in Cancer Research "Molecular Cancer	2006
Prevention of IPMNs with Tarceva and IGF1R Inhibitors in Mismatch	
Repair Defective Colorectal Cancer. Boulder, Colorado	
American Society for Clinical Oncology (ASCO) Annual Meeting "New	2006
Developments in Hereditary Colorectal Cancer" Chicago, Illinois	
Western Pancreas Cancer Research Consortium Annual Conference	2006
"Molecular Cancer Prevention of IPMNs with Tarceva."	
Creighton University "Hypomorphic DNA Mismatch Repair and Single	2006
Molecule MSI" (Keynote address)	
PanCan Conference "Molecular Epidemiology of Pancreatic Cancer and	2006
Genetic Risk Factors" San Francisco, CA.	
American Society for Clinical Oncology (ASCO) Annual Meeting "New	2006
Developments in Hereditary Colorectal Cancer" (Session Chair) Chicago, IL	
AACR Frontiers in Cancer Prevention Conference "Molecular Cancer	2007
Prevention of IPMNs with Erlotinib." (Session Chair)	
Kaiser Clinical Oncology Symposium "Molecular Cancer Prevention" Los	2007
Angeles, CA.	
Stanford University Division of Clinical Cancer Genetics Seminar Series	2007
"Colorectal Cancer Risk Hypomorphs" Palo Alto, CA	

American Society for Clinical Oncology (ASCO) Annual Meeting "Genetic	2007
(Session Chain) Chicago, II	
(Session Chair) Chicago, IL	2000
Annual Meeting International Collaborative Group on Inherited Colorectal	2008
Cancer of the Americas Novel Molecular Diagnostics for Hereditary Gl	
Cancer." (Session Chair). Dallas, TX.	
Albert Einstein College of Medicine Biomedical Sciences Lecture Series	2009
"NOTCH Signaling and Colon Cancer Initiating Cells."	
Hospital for Special Surgery Research Lecture Series "New molecular	2009
mechanisms and genes in Inflammatory Bowel disease associated	
colorectal cancer."	
New York Academy of Medicine "Hereditary GI Cancer Genetics." NCI	2009
Division of Cancer Prevention Conference "Erlotinib for chemoprevention	
of Pancreatic IPMNs."	
Creighton University Molecular Oncology Seminar Series. "Whole exome	2010
sequencing for cancer risk gene discovery."	
University of Connecticut Center for Genetics Lecture series "Colon	2010
cancer stem cells."	
Far Rockaway Hospital Research Lecture Series "GI Cancer Genetics for	2011
Generalists	
Cleveland Clinic Cancer Biology Seminar Series "Mechanisms of colon	2011
cancer metastasis."	
NY Academy of Sciences Cancer Metabolomics Symposium "DFMO for	2012
Colorectal Cancer Chemoprevention." (Panel with Craig Thompson)	
Champalimaud Foundation Annual Meeting on Tumor Metastasis Lisbon.	2012
Portugal. "CCR9 and progression of colorectal cancer."	
Scarsdale High School "Age of Exomes"	2012
Macao Polytechnic Institute (Macao) Distinguished Lecture Series "Exome	2012
analysis to identify cancer risk gene mutations"	
Guangzhou Third Oncology Hospital (China) Research Lecture Series	2012
"CCR9 prevents Colon Cancer Metastasis"	
Shenyang First Medical School "(China) Honored Biotechnology Seminar	2012
Series"CCR9 prevents Colon Cancer Metastasis	
Technion University Cancer Enidemiology Seminar Series (Israel) "Familial	2013
NSCLC Risk Gene Identification by Exome Sequencing	
Rockefeller University Center for Digestive Diseases Sciences Research	2013
Lecture Series "Role of miR-34a in Colon Cancer Stem Cell Asymmetric	2015
Division "	
Columbia University Department of Medicine, CL Division Grand Bounds	2012
"Darallels botwoon Colorectal Cancer Chemonrovention and	2015
Chemotherany DEMO"	
Chemotherapy: Drivio	2012
Starr Cancer Consortium Whole Exome and Genome Sequencing to	2013
	2012
AACK Frontiers in Cancer Prevention Conference "Inhibition of EGFR	2013
Signaling in Colon ACFs by Erlotinib." Washington DC.	
Genetic Epidemiology of Leukemias Consortium Conference Salt Lake	2013
City, "Familial Myeloma and CLL."	

MD Anderson Cancer Center Division of Cancer Prevention Lecturer	2014
Seminar Series "DFMO and mechanisms of colorectal cancer	
chemoprevention	
Eugenides Foundation (Athens, Greece) Medical Oncology and	2015
Hematology Board Review Course, "Update in Clinical Cancer Genetics."	
UC Irvine "Age of Exomes: Identifying novel autoimmune and cancer	2015
susceptibility genes."	
City of Hope NCI Comprehensive Cancer Center "Identifying novel	2015
autoimmune and cancer susceptibility genes."	
AACR Annual Meeting "Chemokine-Targeted Mouse Models of Human	2015
Primary and Metastatic Colorectal Cancer."	
UCSD "Exome sequencing for Familial Crohn's Disease and Multiple	2015
Myeloma	
Creighton University Lynch Symposia "Genetics of Multiple Myeloma"	2015 Sept
Columbia University Precision Medicine Program "RP105 Mutations in	2016 May
Pediatric Crohn's Disease."	
INTERLYMPH conference "Mutation Burden Testing in Familial Multiple	2016 June
Myeloma" Rochester MN	
Genetics of Founder Populations International Conference "Whole Exome	2016 July
Sequencing Discovery of Familial Lung Cancer Risk Genes." Haifa, Israel	
New York Genome Center "Multiple Myeloma Predisposition Genes."	2016 November
New York, NY	
3 rd New York Human Genetics Conference "Familial Multiple Myeloma"	2017 Jan 25th.
Co-organizer and host, 4 th New York Human Genetics Conference	2017 Sept 12
(608 enrolled registrants)	
Participant, NCI Workshop	2017 Sept 19th
"Mouse models of Immunotherapy and Immunorevention"	
City of Hope Cancer Center "Genetics of Multiple Myeloma"	2017 Oct 2nd
Frontiers in Clinical Cancer Genetics "Genetics of Multiple Myeloma"	2018 April 19th

H. PROFESSIONAL MEMBERSHIPS

Member/Officer/Fellow/Role	Organization	Dates
Member	Phi Beta Kappa	1986-Present
Member	Sigma Xi	1986-Present
Member	American Society for Human Genetics (ASHG)	1999-Present
Member	American Society for Clinical Oncology (ASCO)	2003-Present
Member	American Association for Cancer Research (AACR)	2003-Present
Fellow	American College of Medical Genetics (ACMG)	2013-Present
Fellow	American Society of Clinical Investigation (ASCI)	2015-Present

I. HONORS AND AWARDS

HONORS

2018-Vice Chair for Research, Joan and Sanford Weill Department of Medicine, Weill-Cornell 2015-Present Fellow, American Society for Clinical Investigation (ASCI) 2015-Present Co-Program Leader, Genomics and Systems Biology, Weill-Cornell Meyer Cancer Center 2015-Present Gladys and Roland Harriman Professor of Medicine and Genetic Medicine 2007-Present Member, US FDA Clinical and Molecular Genetics Panel 2015-Present Vice Chair for Research, Department of Medicine, Weill Cornell 2009-Present, Director, Adult and Cancer Genetics Clinic, Weill Cornell Medical College 2013-Present Associate Member, Memorial Sloan Kettering Cancer Center 2012-2015 American Society for Clinical Oncology (ASCO) Cancer Prevention Committee 2006-2008 Chair, ASCO "Molecular Diagnostic Testing in Cancer" 2009-Present Associate Director of Research, Weill Cornell-New York Presbyterian Hospital Center for Advanced Digestive Care 2008-Present Editorial Board, Cancer Prevention Research 2006-2010 Chartered Reviewer, NCI Study Section "Cancer Etiology" 2006-2008-American Society for Clinical Oncology (ASCO) Scientific Program Committee 2005-Present Member, ASCO Cancer Education Coordinating Committee 2003-American Cancer Society Research Scholar 1986-1989, 1993-1995 NIH Medical Scientist Training Program 1986 Summa cum laude, Phi Beta Kappa, Princeton University

<u>BIBLIOGRAPHY</u>

1. Articles in professional peer-reviewed journals:

- 1. Glass, C.K., Lipkin, S.M., Devary, O.V., and Rosenfeld, M.G. 1989. Positive and negative regulation of gene transcription by a retinoic acid-thyroid hormone receptor heterodimer. Cell 59:697-708.
- 2. Lipkin, S.M. 1990. An occupational hazard. The Western Journal of Medicine 153:565-566.
- Naar, A.M., Boutin, J.M., Lipkin, S.M., Yu, V.C., Holloway, J.M., Glass, C.K., and Rosenfeld, M.G. 1991. The orientation and spacing of core DNA-binding motifs dictate selective transcriptional responses to three nuclear receptors. Cell 65:1267-1279.
- 4. Lipkin, S.M., Nelson, C.A., Glass, C.K., and Rosenfeld, M.G. 1992. A negative retinoic acid response element in the rat oxytocin promoter restricts transcriptional stimulation by heterologous transactivation domains. Proceedings of the National Academy of Sciences of the United States of America 89:1209-1213.
- 5. **Lipkin, S.M.**, Naar, A.M., Kalla, K.A., Sack, R.A., and Rosenfeld, M.G. 1993. Identification of a novel zinc finger protein binding a conserved element critical for Pit-1-dependent growth hormone gene expression. **Genes & Development** 7:1674-1687.
- 6. **Lipkin, S.M.,** Grider, T.L., Heyman, R.A., Glass, C.K., and Gage, F.H. 1996. Constitutive retinoid receptors expressed from adenovirus vectors that specifically activate chromosomal target genes required for differentiation of promyelocytic leukemia and teratocarcinoma cells. **Journal of Virology** 70:7182-7189.

- Lipkin, S.M., Wang, V., Jacoby, R., Banerjee-Basu, S., Baxevanis, A.D., Lynch, H.T., Elliott, R.M., and Collins, F.S. 2000. MLH3: a DNA mismatch repair gene associated with mammalian microsatellite instability. Nature Genetics 24:27-35.
- 8. **Lipkin, S.M.**, Wang, V., Stoler, D.L., Anderson, G.R., Kirsch, I., Hadley, D., Lynch, H.T., and Collins, F.S. 2001. Germline and somatic mutation analyses in the DNA mismatch repair gene MLH3: Evidence for somatic mutation in colorectal cancers. **Human Mutation** 17:389-396.
- Stella, A., Wagner, A., Shito, K., Lipkin, S.M., Watson, P., Guanti, G., Lynch, H.T., Fodde, R., and Liu, B. 2001. A nonsense mutation in MLH1 causes exon skipping in three unrelated HNPCC families. Cancer Research 61:7020-7024.
- Lipkin, S.M., Moens, P.B., Wang, V., Lenzi, M., Shanmugarajah, D., Gilgeous, A., Thomas, J., Cheng, J., Touchman, J.W., Green, E.D. and Lipkin SM. 2002. Meiotic arrest and aneuploidy in MLH3-deficient mice. Nature Genetics 31:385-390.
- 11. Lynch, H.T., Weisenburger, D.D., Quinn-Laquer, B., Snyder, C.L., Lynch, J.F., **Lipkin, S.M**., and Sanger, W.G. 2002. Family with acute myelocytic leukemia, breast, ovarian, and gastrointestinal cancer. **Cancer Genetics and Cytogenetics** 137:8-14.
- 12. Kudryavtseva, E.I., Sugihara, T.M., Wang, N., Lasso, R.J., Gudnason, J.F., **Lipkin, S.M.**, and Andersen, B. 2003. Identification and characterization of Grainyhead-like epithelial transactivator (GET-1), a novel mammalian Grainyhead-like factor. **Developmental Dynamics** 226:604-617.
- 13. Lipkin SM, Rozek LS, Rennert G, Yang W, Chen PC, Hacia J, Hunt N, Shin B, Fodor S, Kokoris M, Greenson JK, Fearon E, Lynch H, Collins F, Gruber SB. 2004. The MLH1 D132H variant is associated with susceptibility to sporadic colorectal cancer. Nature Genetics 36(7): 694-9.
- Cannavo, E., Marra, G., Sabates-Bellver, J., Menigatti, M., Lipkin, S.M., Fischer, F., Cejka, P., and Jiricny, J. 2005. Expression of the MutL homologue hMLH3 in human cells and its role in DNA mismatch repair. Cancer Research 65:10759-10766.
- Chen, P.C., Dudley, S., Hagen, W., Dizon, D., Paxton, L., Reichow, D., Yoon, S.R., Yang, K., Arnheim, N., Liskay, R.M., and Lipkin SM. 2005. Contributions by MutL homologues Mlh3 and Pms2 to DNA mismatch repair and tumor suppression in the mouse. Cancer Research 65:8662-8670.
- 16. Frank, S.A., Chen, P.C., and **Lipkin, S.M**. 2005. Kinetics of cancer: a method to test hypotheses of genetic causation. **BMC Cancer** 5:163.
- Kolas, N.K., Svetlanov, A., Lenzi, M.L., Macaluso, F.P., Lipkin, S.M., Liskay, R.M., Greally, J., Edelmann, W., and Cohen, P.E. 2005. Localization of MMR proteins on meiotic chromosomes in mice indicates distinct functions during prophase I. Journal of Cell Biology 171:447-458.

- 18. Rozek, L.S., **Lipkin, S.M.**, Fearon, E.R., Hanash, S., Giordano, T.J., Greenson, J.K., Kuick, R., Misek, D.E., Taylor, J.M., Douglas, J.A., et al. 2005. CDX2 polymorphisms, RNA expression, and risk of colorectal cancer. **Cancer Research** 65:5488-5492.
- Shin, B.Y., Chen, H., Rozek, L.S., Paxton, L., Peel, D.J., Anton-Culver, H., Rennert, G., Mutch, D.G., Goodfellow, P.J., Gruber, S.B., and Lipkin SM. 2005. Low allele frequency of MLH1 D132H in American colorectal and endometrial cancer patients. Diseases of the Colon and Rectum 48:1723-1727.
- 20. Chao, E.C., and Lipkin, S.M. 2006. Molecular models for the tissue specificity of DNA mismatch repair-deficient carcinogenesis. Nucleic Acids Research 34:840-852.
- 21. Wu, X., Tsai, C.Y., Patam, M.B., Zan, H., Chen, J.P., **Lipkin, S.M.**, and Casali, P. 2006. A role for the MutL mismatch repair Mlh3 protein in immunoglobulin class switch DNA recombination and somatic hypermutation. **Journal of Immunology** 176:5426-5437.
- 22. Zell, J.A., Rhee, J.M., Ziogas, A., **Lipkin, S.M.**, and Anton-Culver, H. 2007. Race, socioeconomic status, treatment, and survival time among pancreatic cancer cases in California. **Cancer Epidemiology, Biomarkers & Prevention** 16:546-552.
- 23. Chao, E.C., Velasquez, J.L., Witherspoon, M.S., Rozek, L.S., Peel, D., Ng, P., Gruber, S.B., Watson, P., Rennert, G., Anton-Culver, H., and **Lipkin SM**. 2008. Accurate classification of MLH1/MSH2 missense variants with multivariate analysis of protein polymorphismsmismatch repair (MAPP-MMR). **Human Mutation** 29:852-860.
- 24. Chen, P.C., Kuraguchi, M., Velasquez, J., Wang, Y., Yang, K., Edwards, R., Gillen, D., Edelmann, W., Kucherlapati, R., and **Lipkin, S.M.** Novel roles for MLH3 deficiency and TLE6-like amplification in DNA mismatch repair-deficient gastrointestinal tumorigenesis and progression. **PLoS Genetics** 2008 4:e1000092.
- Le, H., Ziogas, A., Lipkin, S.M., and Zell, J.A. 2008. Effects of socioeconomic status and treatment disparities in colorectal cancer survival. Cancer Epidemiology, Biomarkers & Prevention 17:1950-1962.
- 26. Le, H., Ziogas, A., Rhee, J.M., Lee, J.G., **Lipkin, S.M.**, and Zell, J.A. 2008. A populationbased, descriptive analysis of malignant intraductal papillary mucinous neoplasms of the pancreas. **Cancer Epidemiology, Biomarkers & Prevention** 17:2737-2741.
- 27. Pan, Z., Sikandar, S., Witherspoon, M., Dizon, D., Nguyen, T., Benirschke, K., Wiley, C., Vrana, P., and **Lipkin, S.M**. 2008. Impaired placental trophoblast lineage differentiation in Alkbh1(-/-) mice. **Developmental Dynamics** 237:316-327.
- 28. Edwards, R.A., Witherspoon, M., Wang, K., Afrasiabi, K., Pham, T., Birnbaumer, L., and **Lipkin, S.M.** 2009. Epigenetic repression of DNA mismatch repair by inflammation and hypoxia in inflammatory bowel disease-associated colorectal cancer. **Cancer Research** 69:6423-6429.
- 29. Le, H., Ziogas, A., Taylor, T.H., **Lipkin, S.M.**, and Zell, J.A. 2009. Survival of distinct Asian groups among colorectal cancer cases in California. **Cancer** 115:259-270.

- 30. Herbert, B.S., Chanoux, R.A., Liu, Y., Baenziger, P.H., Goswami, C.P., McClintick, J.N., Edenberg, H.J., Pennington, R.E., **Lipkin, S.M.**, and Kopelovich, L. 2010. A molecular signature of normal breast epithelial and stromal cells from Li-Fraumeni syndrome mutation carriers. **Oncotarget** 1:405-422.
- 31. Lipkin, S.M., Chao, E.C., Moreno, V., Rozek, L.S., Rennert, H., Pinchev, M., Dizon, D., Rennert, G., Kopelovich, L., and Gruber, S.B. 2010. Genetic variation in 3-hydroxy-3methylglutaryl CoA reductase modifies the chemopreventive activity of statins for colorectal cancer. Cancer Prevention Research 3:597-603.
- Sikandar, S., Dizon, D., Shen, X., Li, Z., Besterman, J., and Lipkin, S.M. 2010. The class I HDAC inhibitor MGCD0103 induces cell cycle arrest and apoptosis in colon cancer initiating cells by upregulating Dickkopf-1 and non-canonical Wnt signaling. Oncotarget 1:596-605.
- Sikandar, S.S., Pate, K.T., Anderson, S., Dizon, D., Edwards, R.A., Waterman, M.L., and Lipkin, S.M. 2010. NOTCH signaling is required for formation and self-renewal of tumorinitiating cells and for repression of secretory cell differentiation in colon cancer. Cancer Research 70:1469-1478.
- Zhao, F., Edwards, R., Dizon, D., Afrasiabi, K., Mastroianni, J.R., Geyfman, M., Ouellette, A.J., Andersen, B., and Lipkin, S.M. 2010. Disruption of Paneth and goblet cell homeostasis and increased endoplasmic reticulum stress in Agr2-/- mice.
 Developmental Biology 338:270-279.
- 35. Shin, Y.J., Hencey, B., **Lipkin, S.M.**, and Shen, X. 2011. Frequency domain analysis reveals external periodic fluctuations can generate sustained p53 oscillation. **PloS One** 6:e22852.
- 36. Benoit, Y.D., Laursen, K.B., Witherspoon, M.S., **Lipkin, S.M**., and Gudas, L.J. Inhibition of PRC2 histone methyltransferase activity increases TRAIL-mediated apoptosis sensitivity in human colon cancer cells. **J Cell Physiol** 2013 Apr 228(4): 764-72.
- 37. Chen, H.J., Edwards, R., Tucci, S., Bu, P., Milsom, J., Lee, S., Edelmann, W., Gumus, Z.H., Shen, X., and **Lipkin, S**. 2012. Chemokine 25-induced signaling suppresses colon cancer invasion and metastasis. **Journal of Clinical Investigation** 122:3184-3196. *A Commentary on this paper was featured in the BioCentury journal SciBX* 5:32 (2012). It also resulted in a patent filed by WCMC that is in process of being licensed.
- Crous-Bou, M., Rennert, G., Salazar, R., Rodriguez-Moranta, F., Rennert, H.S., Lejbkowicz, F., Kopelovich, L., Lipkin, S.M., Gruber, S.B., and Moreno, V. 2012. Genetic polymorphisms in fatty acid metabolism genes and colorectal cancer. Mutagenesis 27:169-176.
- 39. Jahid, S., Sun, J., Edwards, R.A., Dizon, D., Panarelli, N.C., Milsom, J.W., Sikandar, S.S., Gumus, Z.H., and **Lipkin, S.M**. 2012. miR-23a promotes the transition from indolent to invasive colorectal cancer. **Cancer Discovery** 2:540-553.

- Stadler ZK, Esposito D, Shah S, Vijai J, Yamrom B, Levy D, Lee YH, Kendall J, Leotta A, Ronemus M, Hansen N, Sarrel K, Rau-Murthy R, Schrader K, Kauff N, Klein RJ, Lipkin SM, Murali R, Robson M, Sheinfeld J, Feldman D, Bosl G, Norton L, Wigler M, Offit K. 2012. Rare de novo germline copy-number variation in testicular cancer. American Journal of Human Genetics 91:379-383.
- Verma, S., Salmans, M.L., Geyfman, M., Wang, H., Yu, Z., Lu, Z., Zhao, F., Lipkin, S.M., and Andersen, B. 2012. The estrogen-responsive Agr2 gene regulates mammary epithelial proliferation and facilitates lobuloalveolar development. Developmental Biology 369:249-260.
- 42. Wang, X., Wei, X., Thijssen, B., Das, J., **Lipkin, S.M**., and Yu, H. 2012. Three-dimensional reconstruction of protein networks provides insight into human genetic disease. **Nature Biotechnology** 30:159-164. *The journal Nature published a "Technology Feature" commentary that highlighted this paper. Additionally, the journal Nature Methods dedicated its Systems Biology commentary section in "Research Highlights" to solely feature this paper.*
- Vijai, J., Kirchhoff, T., Schrader, K.A., Brown, J., Dutra-Clarke, A.V., Manschreck, C., Hansen, N., Rau-Murthy, R., Sarrel, K., Przybylo, J., Shah, S., Cheguri, S., Stadler, Z., Zhang, L., Paltiel, O., Ben-Yehuda, D., Viale, A., Portlock, C., Straus, D., Lipkin, SM, Lacher, M., Robson, M., Klein, R.J., Zelenetz, A. & Offit, K. Susceptibility Loci associated with specific and shared subtypes of lymphoid malignancies. PLoS Genetics 2013 9(1):e1003220 (2013).
- Bu, P., Chen, K., Chen, J., Wang, L., Walters, J., Shin, Y., Goerger, J, Sun, J., Witherspoon, M., Rakhilin, N., Li, J., Yang, H., Milsom, J., Lee, S., Zipfel, W., Jin, M., Gümüş, G., Lipkin*, S., and Shen, X. A microRNA miR-34a Regulated Bimodal Switch targets Notch in Colon Cancer Stem Cells. Cell Stem Cell 2013 May 2;12(5):602-15 (*Co-corresponding author). The journal Cell Stem Cell published a Preview describing this work in the same issue on pages 499-500.
- Guo Y, Wei X, Das J, Grimson A, Lipkin SM, Clark AG, Yu H. Dissecting Disease Inheritance Modes in a Three-Dimensional Protein Network Challenges the "Guilt-by-Association" Principle. American Journal of Human Genetics. 2013 Jul 11;93(1):78-89.
- 46. Das J, Vo TV, Wei X, Mellor JC, Tong V, Degatano AG, Wang X, Wang L, Cordero NA, Kruer-Zerhusen N, Matsuyama A, Pleiss JA, **Lipkin SM**, Yoshida M, Roth FP, Yu H. Crossspecies protein interactome mapping reveals species-specific wiring of stress response pathways. **Science Signaling**. 2013 May 21;6(276):ra38.
- 47. Witherspoon M, Chen Q, Kopelovich L, Gross SS, Lipkin SM. Unbiased metabolite profiling indicates that a diminished thymidine pools is the underlying mechanism of colon cancer chemoprevention by alpha-difluoro-methylornithine (DFMO). Cancer Discovery 2013 Sep;3 (9):1072-81. A Commentary in the same issue of the journal highlighted this work.
- 48. Vijai J, Kirchhoff T, Schrader KA, Brown J, Dutra-Clarke AV, Manschreck C, Hansen N, Rau-Murthy R, Sarrel K, Przybylo J, Shah S, Cheguri S, Stadler Z, Zhang L, Paltiel O, Ben-

Yehuda D, Viale A, Portlock C, Straus D, **Lipkin SM**, Lacher M, Robson M, Klein RJ, Zelenetz A, Offit. Susceptibility loci associated with specific and shared subtypes of lymphoid malignancies. **PLoS Genet**. 2013;9(1):e1003220.

- 49. Ekta Khurana, Yao Fu, Vincenza Colonna, Xinmeng Jasmine Mu, Hyun Min Kang, Tuuli Lappalainen, Andrea Sboner, Lucas Lochovsky, Jieming Chen, Arif Harmanci, Jishnu Das, Alexej Abyzov, Suganthi Balasubramanian, Kathryn Beal, Dimple Chakravarty, Daniel Challis, Yuan Chen, Declan Clarke, Laura Clarke, Fiona Cunningham, Uday S. Evani, Paul Flicek, Robert Fragoza, Erik Garrison, Richard Gibbs, Zeynep H. Gümüş, Javier Herrero, Naoki Kitabayashi, Yong Kong, Kasper Lage, Vaja Liluashvili, **Steven Lipkin**, Daniel G. MacArthur, Gabor Marth, Donna Muzny, Tune H. Pers, Graham R. S. Ritchie, Jeffrey A. Rosenfeld, Cristina Sisu, Xiaomu Wei, Michael Wilson, Yali Xue, Fuli Yu, 1000 Genomes Project Consortium, Emmanouil T. Dermitzakis, Haiyuan Yu, Mark A. Rubin, Chris Tyler-Smith and Mark Gerstein "Integrative annotation of variants from 1,092 humans: application to cancer genomics" **Science**. 2013 Oct 4;342(6154):1235587.
- 50. Marta Crous-Bou, Gad Rennert, Daniel Cuadras, Ramon Salazar, David Cordero, Hedy Saltz Rennert, Flavio Lejbkowicz, Levy Kopelovich, **Steven M Lipkin**, Stephen B Gruber and Victor Moreno. Polymorphisms in alcohol metabolism genes ADH1B and ALDH2, alcohol consumption and colorectal cancer **PloSOne** 2013 Nov 25;8(11):e80158.
- Xiaomu Wei, Jishnu Das, Robert Fragoza, Jin Liang, Francisco M. Bastos de Oliveira, Hao Ran Lee, Xiujuan Wang, Matthew Mort, Peter D. Stenson, David N. Cooper, Steven M. Lipkin, Marcus B. Smolka, Haiyuan Yu. A massively parallel pipeline to clone DNA variants and examine molecular phenotypes of human disease mutations. PloS Genetics 2014 Dec 11;10(12):e1004819.
- 52. Gillen, DG, Meyskens, FL, Morgan, TM, Zell, J, Carroll, R., Benya, R., Chen, WP, Mo, A., Tucker, C., Bhattacharya, A., Huang, Z., Arcilla, M., Wong, V., Chung, V., Gonzalez, R., Rodriguez, L., Szabo, E., Rosenberg, D and Lipkin, SM. A Phase IIa Randomized, Double-Blind Trial of Erlotinib in Inhibiting EGF Receptor Signaling in Aberrant Crypt Foci of the Colorectum. Cancer Prevention Research 2015 Mar;8(3):222-30.
- 53. Bu, P., Wang, L., Chen, K., Rakhilin, N., Sun, J., Closa, A., Tung, K., King, S., Varanko, A., Xu, Y., Chen, J., Zessin, A., Shealy, J., Cummings, B., Hsu, D., **Lipkin, SM**, Moreno, V., Gümüş, Z., and Shen, X. miR-1269 Promotes Metastasis and Forms a .Positive Feedback Loop with TGF-Beta. **Nature Communications** 2015 Apr 15;6:6879. PMID: 25872451.
- 54. Chen, H., Sun, J., Huang, Z., Hou, H., Arcilla, M, Rakhilin, N., Joe, D., Choi, J., Gadamsetty, P., Milsom, J., Nandakumar, G., Longman, R., Zhou, K., Edwards, R., Chen, J., Chen, K., Bu, P. Miller, A., Gümüş, Z., Shuler, M., Nishimura, N., Edelmann, W., Shen, X., Lipkin, SM. Chemokine-Targeted Mouse Models of Human Primary and Metastatic Colorectal Cancer. Nature Biotechnology 2015 Jun;33(6):656-60. PMID: 26006007.
- 55. Goodenberger ML, Thomas BC, Riegert-Johnson D, Boland CR, Plon SE, Clendenning M, Win AK, Senter L, **Lipkin SM**, Stadler ZK, Macrae FA, Lynch HT, Weitzel JN, de la Chapelle A, Syngal S, Lynch P, Parry S, Jenkins MA, Gallinger S, Holter S, Aronson M, Newcomb PA, Burnett T, Le Marchand L, Pichurin P, Hampel H, Terdiman JP, Lu KH, Thibodeau S, Lindor

NM. PMS2 monoallelic mutation carriers: the known unknown. Genetic Medicine 2016 Jan;18(1):13-9. PMID: 25856668.

- 56. Topka S, Vijai J, Walsh MF, Jacobs L, Maria A, Villano D, Gaddam P, Wu G, McGee RB, Quinn E, Inaba H, Hartford C, Pui CH, Pappo A, Edmonson M, Zhang MY, Stepensky P, Steinherz P, Schrader K, Lincoln A, Bussel J, Lipkin SM, Goldgur Y, Harit M, Stadler ZK, Mullighan C, Weintraub M, Shimamura A, Zhang J, Downing JR, Nichols KE, Offit K. Germline ETV6 Mutations Confer Susceptibility to Acute Lymphoblastic Leukemia and Thrombocytopenia. PLoS Genetics 2015 Jun 23;11(6):e1005262. PMID: 26102509.
- Robson ME, Bradbury AR, Arun B, Domchek SM, Ford JM, Hampel HL, Lipkin SM, Syngal S, Wollins DS, Lindor NM. J Clin Oncol. 2015 Aug 31. "American Society of Clinical Oncology Policy Statement Update: Genetic and Genomic Testing for Cancer Susceptibility." Journal of Clinical Oncology 2015 Nov 1;33(31):3660-7. PMID: 26324357
- 58. Bu P, Wang L, Chen KY, Srinivasan T, Murthy PK, Tung KL, Varanko AK, Chen HJ, Ai Y, King S, Lipkin SM, Shen X. A miR-34a-Numb Feedforward Loop Triggered by Inflammation Regulates Asymmetric Stem Cell Division in Intestine and Colon Cancer. Cell Stem Cell 2016 Feb 4;18(2):189-202. PMID: 26849305.
- Lihua Wang Pengcheng Bu Yiwei Ai Tara Srinivasan Huanhuan Joyce Chen Kun Xiang Steven M Lipkin Xiling Shen. A long non-coding RNA targets microRNA miR-34a to regulate colon cancer stem cell asymmetric division. eLife 2016;10.7554/eLife.14620.
- Tara Srinivasan, Jewell Walters, Pengcheng Bu, Elaine Bich Than, Kuei-Ling Tung, Kai-Yuan Chen, Nicole Panarelli, Jeff Milsom, Leonard Augenlicht, Steven M. Lipkin*, and Xiling Shen*. NOTCH Signaling Regulates Asymmetric Cell Fate of Fast- and Slow-Cycling Colon Cancer-Initiating Cells. Cancer Research. Cancer Res. 2016 Jun 1;76(11):3411-21. PMID: 27197180. (*Co-corresponding author).
- 61. Srinivasan T, Than EB, Bu P, Tung KL, Chen KY, Augenlicht L, **Lipkin SM***, Shen X*. Notch signalling regulates asymmetric division and inter-conversion between lgr5 and bmi1 expressing intestinal stem cells. **Scientific Reports** 2016 May 16;6:26069. PMID: 27181744. (*Co-corresponding author).
- 62. Schrader KA, Stratton KL, Murali R, Laitman Y, Cavallone L, Offit L, Wen YH, Thomas T, Shah S, Rau-Murthy R, Manschreck C, Salo-Mullen E, Otegbeye E, Corines M, Zhang L, Norton L, Hudis C, Klein RJ, Kauff ND, Robson M, Stadler ZK, Haber DA, Lipkin SM, Friedman E, Foulkes WD, Altshuler D, Vijai J, Offit K. Genome Sequencing of Multiple Primary Tumors Reveals a Novel PALB2 Variant. Journal of Clinical Oncology 2016 Mar 10;34(8):e61-7. PMID: 24982446
- Chen HJ, Wei Z, Sun J, Bhattacharya A, Savage DJ, Serda R, Mackeyev Y, Curley SA, Bu P, Wang L, Chen S, Cohen-Gould L, Huang E, Shen X, Lipkin SM, Copeland NG, Jenkins NA, Shuler ML. A recellularized human colon model identifies cancer driver genes. Nature Biotechnology 2016 Aug;34(8):845-51. doi: 10.1038/nbt.3586. Epub 2016 Jul 11. PMID: 27398792

- 64. Joseph Vijai, Sabine Topka, Vignesh Ravichandran, Danylo Villano, Tinu Thomas, Ann Maria, Pragna Gaddam, Anne Lincoln, Kara Maxwell, Kasmintan Schrader, Steven Hart, Steven Lipkin, Susan Neuhausen, Michael Walsh, Liying Zhang, Zsofia Stadler, Mark Robson, Jeffrey Weitzel, Mark Daly, Katherine Nathanson, Fergus Couch, Larry Norton, Gadi Rennert and Kenneth Offit. A recurrent ERCC3 truncating mutation confers moderate risk for breast cancer. Cancer Discovery 2016 Nov;6 (11):1267-1275. PMID: 27655433
- 65. Jahid S, Sun J, Gelincik O, Blecua P, Edelmann W, Kucherlapati R, Zhou K, Jasin M, Gümüş ZH, Li**pkin SM.** Inhibition of colorectal cancer genomic copy number alterations and chromosomal fragile site tumor suppressor FHIT and WWOX deletions by DNA mismatch repair. **Oncotarget**. 2017 May 10. PMID: 28548965
- 66. Chen KY, Srinivasan T, Tung KL, Belmonte JM, Wang L, Murthy PKL, Choi J, Rakhilin N, King S, Varanko AK, Witherspoon M, Nishimura N, Glazier JA, **Lipkin SM**, Bu P, Shen X.
- 67. Crespo M, Vilar E, Tsai SY, Chang K, Amin S, Srinivasan T, Zhang T, Pipalia NH, Chen HJ, Witherspoon M, Gordillo M, Xiang JZ, Maxfield FR, **Lipkin S**, Evans T, Chen S. Colonic organoids derived from human induced pluripotent stem cells for modeling colorectal cancer and drug testing. **Nature Medicine** 2017 Jul;23(7):878-884
- 68. Mandelker D, Zhang L, Kemel Y, Stadler ZK, Joseph V, Zehir A, Pradhan N, Arnold A, Walsh MF, Li Y, Balakrishnan AR, Syed A, Prasad M, Nafa K, Carlo MI, Cadoo KA, Sheehan M, Fleischut MH, Salo-Mullen E, Trottier M, Lipkin SM, Lincoln A, Mukherjee S, Ravichandran V, Cambria R, Galle J, Abida W, Arcila ME, Benayed R, Shah R, Yu K, Bajorin DF, Coleman JA, Leach SD, Lowery MA, Garcia-Aguilar J, Kantoff PW, Sawyers CL, Dickler MN, Saltz L, Motzer RJ, O'Reilly EM, Scher HI, Baselga J, Klimstra DS, Solit DB, Hyman DM, Berger MF, Ladanyi M, Robson ME, Offit K. Mutation Detection in Patients With Advanced Cancer by Universal Sequencing of Cancer-Related Genes in Tumor and Normal DNA vs Guideline-Based Germline Testing. JAMA. 2017 Sep 5;318(9):825-835.
- Waller RG, Darlington TM, Wei X, Madsen MJ, Thomas A, Curtin K, Coon H, Rajamanickam V, Musinsky J, Jayabalan D, Atanackovic D, Rajkumar SV, Kumar S, Slager S, Middha M, Galia P, Demangel D, Salama M, Joseph V, McKay J, Offit K, Klein RJ, Lipkin SM, Dumontet C, Vachon CM, Camp NJ. Novel pedigree analysis implicates DNA repair and chromatin remodeling in multiple myeloma risk. PLoS Genet. 2018 Feb 1;14(2):e1007111
- 70. Wei X, Calvo-Vidal MN, Chen S, Wu G, Revuelta MV, Sun J, Zhang J, Walsh MF, Nichols KE, Joseph V, Snyder C, Vachon CM, McKay JD, Wang SP, Jayabalan DS, Jacobs LM, Becirovic D, Waller RG, Artomov M, Viale A, Patel J, Phillip JM, Chen-Kiang S, Curtin K, Salama M, Atanackovic D, Niesvizky R, Landgren O, Slager SL, Godley LA, Churpek J, Garber JE, Anderson KC, Daly MJ, Roeder RG, Dumontet C, Lynch HT, Mullighan CG, Camp NJ, Offit K, Klein RJ, Yu H, Cerchietti L, Lipkin SM. Germline mutations in lysine specific demethylase 1 (LSD1/KDM1A) confer susceptibility to multiple myeloma. Cancer Res. 2018 Mar 20.
- 71. Lencz T, Yu J, Palmer C, Carmi S, Ben-Avraham D, Barzilai N, Bressman S, Darvasi A, Cho JH, Clark LN, Gümüş ZH, Jos Liu J, Hsieh CL, Gelincik O, Devolder B, Sei S, Zhang S, Lipkin SM, Chang YF.
- 72. Joseph V, Klein R, Lipkin S, Offit K, Ostrer H, Ozelius LJ, Peter I, Atzmon G, Pe'er I. Highdepth whole genome sequencing of an Ashkenazi Jewish reference panel: enhancing sensitivity, accuracy, and imputation. **Hum Genet. 2018 Apr**; 137(4):343-355. PMID: 29705978.

- 73. Choi J, Rakhilin N, Gadamsetty P, Joe DJ, Tabrizian T, Lipkin SM, Huffman DM, Shen X, Nishimura N. Intestinal crypts recover rapidly from focal damage with coordinated motion of stem cells that is impaired by aging. **Sci Rep.** 2018 Jul 20;8(1):10989 PMID: 30030455.
- 74. Ravichandran V, Shameer Z, Kemel Y, Walsh M, Cadoo K, **Lipkin S**, Mandelker D, Zhang L, Stadler Z, Robson M, Offit K, Vijai J. Toward automation of germline variant curation in clinical cancer genetics. **Genet Med**. 2019 Feb 21. PMID: 30787465.
- Artomov M, Joseph V, Tiao G, Thomas T, Schrader K, Klein RJ, Kiezun A, Gupta N, Margolin L, Stratigos AJ, Kim I, Shannon K, Ellisen LW, Haber D, Getz G, Tsao H, Lipkin SM, Altshuler D, Offit K, Daly MJ. Case-control analysis identifies shared properties of rare germline variation in cancer predisposing genes. Eur J Hum Genet. 2019 Feb 4. PMID:30718883.
- Glynn S, Lipkin S, Zhang T, Sboner A, Elemento O, Van Besien K, Beltran H.
 The application of precision medicine in diagnosing familial Mediterranean fever. milial
 Mediterranean fever. Leuk Lymphoma. 2019 Jan 30:1-3. PMID: 30698071.
- 77. Liu J, Hsieh CL, Gelincik O, Devolder B, Sei S, Zhang S, Lipkin SM, Chang YF. Proteomic characterization of outer membrane vesicles from gut mucosa-derived fusobacterium nucleatum. J Proteomics. PMID 30634002

2. <u>Reviews</u>

- 1. Lipkin, S.M., Rosenfeld, M.G., and Glass, C.K. 1992. Regulation of gene expression by thyroid hormones and retinoic acid. Genetic Engineering 14:185-209.
- 2. Lipkin, S.M., and Afrasiabi, K. 2007. Familial colorectal cancer syndrome X. Seminars in Oncology 34:425-427.
- 3. Power, D.G., Gloglowski, E., and Lipkin, S.M. 2010. Clinical genetics of hereditary colorectal cancer. Hematology/Oncology clinics of North America; 24:837-859.
- Bu P, Chen KY, Lipkin SM, Shen X. Asymmetric division: a marker for cancer stem cells in early stage tumors? Oncotarget, 2013 Jul; 4(7)950-1. *Invited commentary on our Cell Stem Cell 2013 publication.*

3. <u>Books</u>

 SM Lipkin with Jon Luoma. "The Age of Genomes." Edited H. Atwan. Beacon Press, Boston, MA. 2016. This book is intended to help educate the lay public on advances and potential roadblocks to the realization of genetic medicine. For reviews and synopses please see <u>https://www.amazon.com/Age-Genomes-Tales-Genetic-Medicine-</u> <u>ebook/dp/B014BQVLV0?ie=UTF8&*Version*=1&*entries*=0#navbar.</u>

4. <u>Book Chapters</u>

 Lipkin, SM, and Offit, K. Clinical Gastrointestinal Cancer Genetics. Gastrointestinal Oncology: Principles and Practices. Edited by David P. Kelsen. Lippincott, Williams & Wilkins, Philadelphia: c2008, Chapter 3. This is a popular and well-cited textbook of GI malignancies.