

P. Ryan Potts

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St. Jude Children's Research Hospital
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PROFESSIONAL APPOINTMENTS

01/2016 – present

Associate Member

Department of Cell and Molecular Biology
St. Jude Children's Research Hospital

09/2011 – 12/2015

Assistant Professor

Department of Physiology
Department of Pharmacology
Department of Biochemistry
Simmons Comprehensive Cancer Center
Green Center for Reproductive Biology
UT Southwestern Medical Center

TRAINING

01/2008 – 09/2011

UT Southwestern Medical Center – Biochemistry

Sara and Frank McKnight Independent Postdoctoral Fellowship

Defining the biochemical and cellular functions of the MAGE protein family

08/2003 – 12/2007

UT Southwestern Medical Center – Pharmacology

Ph.D. Student – Hongtao Yu Laboratory

Functional analysis of the human SMC5/6 complex in homologous recombination and telomere maintenance

01/2001 – 08/2003

UNC Chapel Hill – Cell Biology

Research Technician – Mohanish Deshmukh Laboratory

Investigating caspase regulation in neuronal apoptosis

EDUCATION

08/2003 – 12/2007

UT Southwestern Medical Center

Doctor of Philosophy

Department of Basic Science – Cell Regulation Program

08/1997 – 12/2000

University of North Carolina at Chapel Hill

Bachelor of Science Degree

B.S. Biology, minor Chemistry

AWARDS

- 2013 American Cancer Society New Investigator Award/UTSW
- 2011 CPRIT Scholar in Cancer Research Award
- 2011 Michael L. Rosenberg Scholar in Medical Research
- 2008 Sara and Frank McKnight Independent Postdoctoral Fellowship Award
- 2007 Oral Presentation Award at AACR Telomere Meeting
- 2007 American Association for Cancer Research Scholar-in-Training Award
- 2007 UT Southwestern Dean's Discretionary Award
- 2007 Nominata Award – Highest honor bestowed by UT Southwestern to a graduate student
- 2007 Altrusa International, Martia Leita Pharmacology Award
- 2007 ASBMB Travel Award
- 2005 Keystone Symposia on Genomic Instability and Repair Travel Award
- 2005 Sigma Xi Abstract Award

PUBLICATIONS

Koirala, S. **Potts, P.R.** (2016) An acetyldegron triggers CRBN to take down the “Q”. *Mol. Cell.* *61*, 795-6.

Hao, Y.H., Fountain Jr., M.D., Fon Tacer, K., Bi, W., Kang, S.L., Patel, A., Rosenfeld, J.A., Le Caignec, C., Isidor, B., Krantz, I.D., Noon, S.E., Pfothenauer, J.P., Morgan, T.M., Moran, R., Pedersen, R.C., Saenz, M.S., Schaaf, C.P., **Potts, P.R.** (2015) USP7 haploinsufficiency causes a neurodevelopmental disorder due to defects in endosomal trafficking. *Mol. Cell.* *59*, 956-69.

Trošt N., Peña-Llopis S., Koirala S., Stojan J., **Potts P.R.**, Tacer K.F., Martinez E.D.. (2015) γ Klotho is a novel marker and cell survival factor in a subset of triple negative breast cancers. *Oncotarget.* *7*, 2611-28.

Weon, J.L., **Potts, P.R.** (2015) The MAGE protein family and cancer. *Curr. Opin. Cell Biol.* *37*, 1-8.

Pineda, C.T., **Potts, P.R.** (2015) Oncogenic MAGEA-TRIM28 ubiquitin ligase downregulates autophagy by ubiquitinating and degrading AMPK in cancer. *Autophagy.* *11*, 844-6.

Pineda, C.T., Ramanathan, S., Fon Tacer, K., Weon, J.L., Potts, M.B., Ou, Y.H., White, M.A., **Potts, P.R.** (2015) Degradation of AMPK by a Cancer-Specific Ubiquitin Ligase. *Cell.* *160*, 715-28.
Science Signaling Editor's Choice and Current Biology Dispatch Highlight

Hao, Y.H. and **Potts, P.R.** (2014). Ubiquitin puts actin in its place. *Molecular Cell.* *54*, 544-6.

Hao, Y.H., Doyle, J.M., Ramanathan, S., Gomez, T.S., Jia, D., Xu, M., Chen, Z.J., Billadeau, D.D., Rosen, M.K., **Potts, P.R.** (2013). Regulation of Actin Polymerization and Retrograde Transport by Ubiquitination. *Cell.* *152*, 1051-1064.
Featured in Faculty of 1000

Wu, N., Kong, X., Ji, Z., Zeng, W., **Potts, P.R.**, Yokomori, K., Yu, H. (2012). SCC1 sumoylation by MMS21 promotes sister chromatid recombination through counteracting Wapl. *Genes Dev.* *26*, 1473-85.

Ellis, B., **Potts, P.R.**, Porteus, M.H. (2011). Creating higher titer lentivirus using caffeine. *Human Gene Therapy.* *22*, 93-100.

Doyle, J.M., Gao, J., Wang, J., Yang, M. and **Potts, P.R.** (2010). MAGE-RING complexes comprise a family of E3 ubiquitin ligases. *Molecular Cell.* *39*, 963-974.
Featured in News and Views, Faculty of 1000, and 2010 Science Signaling Breakthrough of the Year

Potts, P.R. (2009). The Yin and Yang of the MMS21-SMC5/6 SUMO ligase complex in homologous recombination. *DNA Repair.* *8*, 499-506.

Potts, P.R. and Yu, H. (2008). Chromosome Formation. *Wiley Ency. Chem. Biol.* DOI:10.1002/9780470048672.webc650

Potts, P.R. and Yu, H. (2007). The SMC5/6 Complex Maintains Telomere Length in ALT Cancer Cells through Sumoylation of Telomere-Binding Proteins. *Nat. Struct. Mol. Biol.* *14*, 581-590.

Featured News and Views article and as the cover article

Potts, P.R., Porteus, M.H., and Yu, H. (2006). Human SMC5/6 complex promotes sister chromatid homologous recombination by recruiting the SMC1/3 cohesin complex to double-strand breaks. *EMBO J.* *25*, 3377-3388.

Potts, P.R. and Yu, H. (2005). Human MMS21/NSE2 is a SUMO ligase required for DNA repair. *Mol. Cell. Biol.* *25*, 7021-7032.

Wright, K.M., Linhoff, M.W., **Potts, P.R.**, and Deshmukh, M. (2004). Decreased apoptosome activity with neuronal differentiation sets the threshold for strict IAP regulation of apoptosis. *J. Cell Biol.* *167*, 303-313.

Olteanu, A., Patel, C.N., Dedmon, M.M., Kennedy, S., Linhoff, M.W., Minder, C.M., **Potts, P.R.**, Deshmukh, M., and Pielak, G.J. (2003). Stability and apoptotic activity of recombinant human cytochrome *c*. *Biochem. Biophys. Res. Commun.* *312*, 733-740.

Potts, P.R., Singh, S., Knezek, M., Thompson, C.B., and Deshmukh, M. (2003). Critical function of endogenous XIAP in regulating caspase activation during sympathetic neuronal apoptosis. *J. Cell Biol.* *163*, 789-799.

Featured in News Section and in Faculty of 1000

FUNDING

Current

- 2015 – 2020 **NIH NIGMS (1R01GM111332)**
Regulation of WASH-mediated Endosomal Protein Recycling
- 2016 – 2017 **Foundation for Prader-Willi Research (342604)**
Linking cellular function of MAGE-L2 to its role in PWS
- 2016 – 2019 **World Cancer Research (formerly AICR) (15-0177)**
Functional Roles of MAGE cancer-testis antigens in lung cancer

Completed

- 2014 – 2015 **CPRIT (RP140661) – Co-PI**
Therapeutic Analyses of the regulatory mechanisms of tankyrase and its role in tumorigenesis
- 2013 – 2015 **The Welch Foundation (I-1821)**
Therapeutic Targeting of Melanoma Antigen (MAGE) Genes
- 2013 – 2014 **American Cancer Society New Investigator Award/UTSW**
Mechanistic underpinnings of the oncogenic activity of germline MAGE proteins in colorectal cancer
- 2012 – 2014 **Department of Defense – Discovery Award (W81XWH-12-1-0446)**
MAGE proteins and colorectal cancer
- 2011 – 2015 **CPRIT - Scholar in Cancer Research (R1117)**
Functional characterization of type I MAGE cancer-testis antigens in cancer
- 2011 – 2015 **Michael L. Rosenberg Scholar in Medical Research Award (UT Southwestern)**
Physiological role of type II MAGE proteins in somatic and germ cells
- 2009 – 2010 **NIH LungSPORE Career Development Award**

- Role of MAGE proteins in lung cancer
- 2008 – 2010 **Sara and Frank McKnight Fellowship (UT Southwestern)**
Examining the biochemical and cellular functions of the MAGE family proteins
- 2004 – 2007 **NIH Predoctoral Pharmacological Science Training Grant**
Functional characterization of the human SMC5/6 complex

**INVITED
SPEAKER**

Meeting and Conferences

- 2018 *Keystone Symposia – “Ubiquitin Signaling”
- 2017 GTC 7th Ubiquitin Research & Drug Discovery Conference
- 2016 GTC 6th Ubiquitin Research & Drug Discovery Conference
FASEB conference – “Ubiquitin and Cellular Regulation”
CHI Target Identification Ubiquitination Conference
AMPK 2016 – “New Mechanisms and Physiology”, Xiamen, China
- 2015 Cold Spring Harbor Laboratory Meeting – “The Ubiquitin Family”
- 2014 Keystone Symposia – “The Ubiquitin System”
- 2013 Cold Spring Harbor Laboratory Meeting – “The Ubiquitin Family”
- 2012 UT Southwestern Cell Regulation Graduate Program Retreat,
Keynote Speaker
FASEB conference – “Ubiquitin and Cellular Regulation”
- 2011 OMICS Meeting – “Cancer science”
- 2010 MD Anderson Conference – “Ubiquitin, SUMO, and Ubl Proteins”
- 2008 MD Anderson Conference – “Ubiquitin, SUMO, and Ubl Proteins”
- 2007 AACR – “The Role of Telomeres and Telomerase in Cancer”
ASBMB Annual Meeting, Washington DC
Keystone Symposia – “Genome Instability”

University Seminars

- 2017 *Vanderbilt University, Department of Cell and Developmental
Biology
Salk Institute
- 2016 Baylor College of Medicine, Department of Cellular and Molecular
Biology
University of Tsukuba, Japan, International Institute for Integrative
Sleep Medicine (WPI-IIIS)
SiChuan University China, Department of Cell Biology
- 2015 Moffitt Cancer Center
St. Jude, Department of Cell and Molecular Biology
Mayo Clinic, Department of Biochemistry and Cell Biology
University North Carolina at Chapel Hill, Lineberger Cancer Center
Colorado State University – Department of Biochemistry and
Molecular Biology
- 2013 Baylor College of Medicine, Department of Genetics
- 2011 Tsinghua University – Beijing, China, Frontiers in Biological Sciences
Seminar Series
UT Southwestern, Department of Pharmacology
University of Chicago, Department of Cancer Biology
Mass General Hospital, Department of Pathology
University of Iowa, Department of Pharmacology
University of Texas - Austin, Department of Molecular Genetics and
Microbiology
University of Utah, Department of Biochemistry
Vanderbilt University, Department of Biochemistry

2010 UT Southwestern, Department of Cell Biology
University of Arizona, Department of Biochemistry
University of Kansas, Department of Cell Biology
National Cancer Institute – Bethesda, MD
University of Pennsylvania, Department of Cancer Biology
UT Southwestern, Department of Physiology
University of Case Western, Department of Pharmacology

*upcoming

TRAINEES

Current

2016 – present Seung Wook Yang – Postdoctoral Fellow
2015 – present Rebecca Collins – Postdoctoral Fellow
2015 – present Ramya Ravichandran – Research Technician
2014 – present Anna Lee – Graduate Student (Ph.D.)
2013 – present Sajjan Koirala, Ph.D. – Postdoctoral Fellow
2012 – present Jenny Weon – Graduate Student (M.D./Ph.D.)
2012 – present Klementina Fon Tacer, D.V.M., Ph.D. – Instructor

Past

2012 – 2015 Saumya Ramanathan, Ph.D. – Postdoctoral Fellow
2012 – 2015 Melissa Brulotte – Graduate Student (Ph.D.)
Currently graduate student at UT Southwestern
2011 – 2015 Yi-Heng Hao, Ph.D. – Research Scientist
Currently research scientist at UT Southwestern
2011 – 2015 Carlos Pineda – Graduate Student (Ph.D.)
Currently postdoctoral fellow at Roche (Ventana)
2013 – 2013 Anna Brown – Undergraduate Student
Currently undergraduate student at Univ. Texas - Austin
2012 – 2015 Marhiah Montoya – Research Technician
Currently graduate student at Univ. Rochester
2013 – 2015 Natalie Pounds, M.D. – Clinical Fellow (Pediatrics
Hematology Oncology)
Currently in private practice
2013 – 2014 Juan Gabe Garcia – Research Technician
Currently medical student at Univ. Texas – San Antonio
2013 – 2013 Mercedes Quintana – Undergraduate Student
Currently graduate student at UT Southwestern
2011 – 2012 Hyeran Choi – Undergraduate Student
Currently graduate student at Texas A&M
2010 – 2010 Elizabeth Kleinschmidt – Undergraduate Student
Currently graduate student at UCSD
2010 – 2010 Emily Hall – Undergraduate Student
Currently graduate student
2009 – 2010 Travis Miller – Undergraduate Student and Res. Technician
*Currently resident in the plastic and reconstructive surgery
program at Stanford University*
2008 – 2010 Jennifer Doyle – Research Technician
Currently working in private sector

TEACHING & SERVICE

Teaching

UT Southwestern Medical Center

2015 UTSW First-year Core Course, Division of Basic Sciences
“Cells Thread Discussion Coordinator”
2013 – 2015 UTSW First-year Core Course, Division of Basic Sciences
“Facilitator: Cells Thread Paper Discussion”

2012 – 2015	UTSW First-year Core Course, Division of Basic Sciences “Facilitator: Genes Thread Paper Discussion”
2012 – 2015	UTSW First-year Core Course, Division of Basic Sciences “Lecturer: DNA replication and chromosome biology” ”Lecturer: Ubiquitination and Protein Degradation”
2012 – 2015	UTSW Cancer Biology II, Cancer Biology Graduate Program “Lecturer: Ubiquitin family of proteins in cancer”
2010 – 2015	UTSW Signal Transduction II, Cell Regulation Graduate Program “Lecturer: Ubiquitin family of proteins in cellular signaling”
2008 – 2015	UTSW Current topics in Pharmacology, Cell Regulation Graduate Program, Facilitator

Thesis Committees

UT Southwestern Medical Center

2014 – present	Yu-san Yang – PI: Ben Tu, Ph.D.
2014 – 2016	I-Hui Wu – PI: Phil Thomas, Ph.D.
2014 – 2016	Yi ‘Julia’ Zhu – PI: Gang Yu, Ph.D.
2014 – 2016	Ho Yee Joyce Fung – PI: Yuh Min Chook, Ph.D.
2014 – 2016	William Peeples – PI: Michael Rosen, Ph.D.
2013 – 2016	Souparno Bhattacharya – PI: Asaithamby Aroumougame, Ph.D.
2012 – 2016	Ge Zhang – PI: Hongtao Yu, Ph.D.
2011 – 2016	Joshua Pierce – PI: James Amatruda, Ph.D.

Institutional Committees

St. Jude Children’s Research Hospital

2016 - present	SJCRH Education Program Committee
2016	SJCRH Dept Cell and Molecular Biology bioinformatics search committee member
2016	SJCRH Gene Editing Core search committee member

UT Southwestern Medical Center

2015	Southwestern Academy of Teachers Educational Symposium
2014 – 2015	UTSW Cell Regulation Program Steering Committee
2012 – 2015	UTSW Division of Basic Sciences (DBS) graduate student admissions committee, <i>Cell Regulation Graduate Program</i> <i>Representative</i>
2012, 2014	UTSW Academic Career Panel

Grant Reviewer

American Heart Association – Basic Cellular Genetics Study Section
Breast Cancer Campaign
Breast Cancer Now
Dutch Cancer Society
National Science Foundation (NSF)
World Cancer Research organization (formerly AICR)

Journal Reviewer

Appointed

Elife - Early Career Reviewer (2016 – present)
Journal of Biological Chemistry - Assistant Editor (2017-2022)

Adhoc

Biochemical Journal Molecular and Cellular Biology

Biochemistry	Molecular Cell
Cancer Research	Nucleic Acids Research
EMBO Journal	Nature Reviews Molecular Biology
EMBO Reports	Neuroscience and Behavioral Reviews
FEBS	Oncogene
International Journal of Cancer	PLOS Genetics
Journal of Biological Chemistry	PLOS One
Journal of Cell Biology	Scientific Reports
Journal of Clinical Investigation	Structure
Molecular Biology of the Cell	Vaccine