

Maggie C. Louie, Ph.D.

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PROFESSIONAL APPOINTMENTS

2005-present

Associate Professor with Tenure

Dominican University, San Rafael, CA

- Oversee and develop projects for an active research program
 - Drug screening project on breast cancer (in collaboration with medicinal chemist at Touro University, College of Pharmacy)
 - Working on identifying the mechanism of action on 2 lead compounds
 - Therapeutic targeting of orphan receptors in prostate cancer (in collaboration with UC Davis Cancer Center)
 - Investigating the effects of metalloestrogen exposure on breast cancer development and progression.
 - Developed cell culture models to study chronic cadmium exposure
 - Identify expression profiles of cells chronically exposed to low levels of cadmium
- Over 10 years of experience in developing assays and model systems for various projects
 - Developed multiple assay protocols to understand transcriptional regulation (i.e. ChIP-seq, RNA-seq)
 - Developed methodology to measure heavy metals and isolate RNA from the same tumor samples
 - Developed cell culture models to study tamoxifen resistance
 - Developed cell culture models to study chronic cadmium exposure
- Over 15 years of experience conducting experiments to understand cancer development and progression
 - Proficient in most molecular biology and biochemical techniques including but not limited to: cell culture, microarray, ChIP-seq, RNA-seq, qPCR, flow cytometry, FACs, confocal microscopy, etc.
 - Handle biohazard safety level 2 specimens - tumor tissue, blood, and urine
- Write grants to secure external funding
 - As PI or Co-PI, secured more than one million dollars of funding to support research and educational endeavors
 - Prepare NIH and other funding agency reports and oversee grant budget
- Train and mentor over 25 undergraduate and graduate student researchers
- Teach graduate and undergraduate level courses in Biochemistry, Molecular Biotechnology and Research Methodology

2013-present

Master's of Science in Biological Sciences Program Director

Dominican University, San Rafael, CA

- Liaise with executives and scientists at BioMarin Pharmaceutical, Inc., Ultragenyx Pharmaceutical, Inc. and the Buck Institute of Research on Aging to ensure success of Master's program
- Recruit graduate students and match students with research placement at the partner institutions
- Oversee MS Biology program budget

2011- present Adjunct Associate Professor
College of Pharmacy
Touro University of California, Mare Island, CA
• Teach Pharmacology and Pharmacogenomics to Pharm.D students

2004-2005 Post-Doctoral Fellowship in Cancer Biology
University of California, Davis, CA

EDUCATION

2000-2004 Ph.D. in Biochemistry and Molecular Biology
University of California, Davis, CA

1997-2000 M.S. in Chemistry and Biochemistry
San Francisco State University, SF, CA

1992-1997 B.A. in Biochemistry and Molecular Biology
University of California, Berkeley, CA

1992-1997 B.S. in Nutritional Sciences
University of California, Berkeley, CA

PROFESSIONAL SERVICES

2014-Present Zero Breast Cancer, Scientific Advisory Board Member
2012-Present National Institutes of Environmental Health Sciences, Ad Hoc Reviewer
2010-Present Florida's Department of Health Cancer Program, Grant Reviewer
2008-present Department of Defense-Breast Cancer Program, Grant Reviewer
2012-2014 American Cancer Society, Community Advisory Board Member, Marin County
2006-2009 Komen Foundation, Grant Reviewer

AFFILIATIONS WITH PROFESSIONAL ORGANIZATIONS

2006-Present American Association for Cancer Research
2008-Present American Association for Biochemistry and Molecular Biology
2009-2013 Endocrine Society
2008-2013 American Association for Cell Biology

AWARDS AND HONORS

2015 Nominated for the Joseph Fink Faculty Excellence Award
2015 Nominated for the Melba Beals Award for Excellence in Diversity
2015 Bio-Techne American Association for Cancer Research Travel Grant
2014 Quick Start Training grant from California Breast Cancer Research Program
2013 Awarded the Teacher of the Year
2012 Nominated as Teacher of the Year
2011 Annual Biomedical Research Conference for Minority Students Judges award
2011 Nominated as Teacher of the Year
2010 Nominated as Teacher of the Year
2009 Nominated as Teacher of the Year
2009 Genome Consortium for Active Learning Workshop grant
2008-2009 Research Scholarship Award, Dominican University
2005-2006 Research Scholarship Award, Dominican University
2005 Provost Academic Excellence, Dominican University
2005 Turner BioSystems Luminometer Grant
2004 Keystone Travel Scholarship

2001-2004 NIH Pre-doctoral Training Grant
 1998-2000 GAANN Fellowship

SCHOLARSHIP

Pending Funding:

W81XWH-15-BCRP-BREAKTHROUGH-FL12 (**PI: Louie**) Novel flexible heteroarotinoids as selective estrogen receptor down regulators (SERDs) that block ER+ breast cancer cell growth
 01/01/16 to 12/31/18 \$596,384

National Institutes of Health-AREA Grant (R15) (**PI: Louie**) Prolonged cadmium exposure promotes oxidative stress-dependent transcription and breast cancer progression
 07/01/2015 to 06/30/2018 \$350,000

Current Funding:

Lori Painter Philanthropic Organization \$2,600 (**PI: Louie**)
 04/01/2015

Touro University California, College of Pharmacy Research Contract (**PI: Louie**)
 08/01/14 to 07/31/14 \$10,000

Completed Projects:

National Institutes of Health- (R15) 2R15CA121983-02 (**PI: Louie**) Chronic cadmium promotes breast cancer progression
 08/01/2010 to 7/31/14 \$350,000

National Institutes of Health- Research Supplement to Promote Diversity in Health-Related Research (**PI: Louie** and Ponce) Chronic cadmium promotes breast cancer progression
 09/02/2011 to 07/31/2013 \$107,155

W.J. Keck Foundation- Acquisition of a confocal microscope to enhance undergraduate research and education by expanding the imaging technology capabilities at Dominican University of California (PI: Ghosh, **Co-PI: Louie**)
 03/01/2011 to 02/31/2014 \$250,000

Strategic Initiative Grant-Dominican University-Summer Undergraduate Research Experience (SURE)-Pilot (**PI: Louie**)
 01/01/2012-12/31/2012 \$34,600

NSF-MRI: Acquisition of Molecular Imager for Undergraduate Research (**PI: Louie**)
 08/01/2010 to 07/31/2012 \$66,798

National Science Foundation-Genomic Consortium for Active Teaching Minigrant (PI: Johnson-Brousseau, **Co-PI: Louie**)
 01/20/ 2010 \$18,000

National Institutes of Health- (R15) 1R15CA121983-01A1 (**PI: Louie**). Understanding the role of Cadmium in ER+ Breast Cancer Cell Proliferation
 09/01/2007-07/31/2010 \$206,000

National Institutes of Health- Research Supplement to Promote Diversity in Health-Related Research (**PI: Louie** and Vegas) Understanding the role of Cadmium in ER+ Breast Cancer Cell Proliferation
 03/01/2008-06/30/2010 \$53,106

Wendy Will Case Cancer Fund (**PI: Louie**). The role of cadmium in ER+ Breast Cancer Cell Proliferation
 01/01/2007- 12/31/2007 \$30,000

SELECTED PEER-REVIEWED PUBLICATIONS

1. Ponce, E. *Louie, M.C., and Sevigny, M.B. Acute and Chronic Cadmium Exposure Promotes E-Cadherin Degradation in MCF7 Breast Cancer Cells. ***Molecular Carcinogenesis***. 2015 54(10): 1014-25
2. Liu, S., Louie, M.C., Rajagopalan, V., Zhou, H., Ponce, E., Nguyen, T. and Green, L. Synthesis and evaluation of the diarylthiourea analogs as novel anti-cancer agents. ***Bioorganic and Medicinal Chemistry Letters*** 2015 25(6): 1301–1305
3. Lash, D.B., Barnett, M.J., Parekh, N., Shieh, A. Louie, M.C., and Tang, T. T. Perceived Benefits and Challenges of Interprofessional Education Based on a Multidisciplinary Faculty Survey. ***AJPE***. December 2014
4. Lubovac-Pilav Z, Borràs DM, Ponce E, *Louie M.C. Using Expression Profiling to Understand the Effects of Chronic Cadmium Exposure on MCF-7 Breast Cancer Cells. ***PLoS ONE*** 2013 8(12): e84646.
5. Ponce, E., Aquino, N.B. and *Louie, M.C. Chronic exposure to cadmium promotes breast cancer progression by stimulating the expression SDF-1. ***PLoS ONE*** 2013 8(8): e72639
6. Vaksman, N., Barnett, M., Hakobyan, L., Kucher, I., *Louie, M.C. The Impact of Incorporating Pharmacogenomics into the Pharmacy Curriculum on Student Interest. ***Pharmacy Education*** 2012 12(1): 31-36
7. *Aquino, N.B., Sevigny, M.B., *Sabangan, J., *Louie, M.C. The Role of Cadmium and Nickel in Estrogen Receptor Signaling and Breast Cancer: Metalloestrogens or Not? ***Journal of Environmental Science and Health:: Environmental Carcinogenesis and Ecotoxicology Review*** 2012 30(3): 189-224
8. Cyclooxygenase-2 (COX-2) decreases the efficacy of certain COX-2 inhibitors. Sevigny, M.B., *Graham, K., *Ponce, E., Louie, M.C., and *Mitchell, K. ***Pharmacological Research*** 2012 65(4):445-50.
9. Siewit, C.L., Gengler, B., Vegas, E., Puckett, R., *Louie, M.C., Cadmium promotes breast cancer cell proliferation by mediating the interaction between ER α and c-jun. ***Molecular Endocrinology*** 2010 24(5):981-992
10. *Louie, M.C., McClellan, A., Siewit, C.L., Kawabata, L. Estrogen Receptor Regulates the Expression of E2F1 to Mediate Tamoxifen Resistance. ***Molecular Cancer Research*** 2010 8:343-352
11. Li, L., Louie M.C., Chen H.W., Zou, J. Proto-oncogene ACTR/AIB1 promotes breast cancer cell invasion by up-regulating specific MMP expression. ***Cancer Letters*** 2008 Mar 8;261(1):64-73
12. Fussell, J. and *Louie, M.C. The Impact of the Golden Gate Bridge on Marin County Suicide Statistics. ***BIOS*** 2008 79(4) 171-178
13. Louie M.C., Revenko, A., Yao, J., Zou, J., Chen H.W. Direct Control of Cell Cycle Gene Expression by Proto-Oncogene Product ACTR, and Its Autoregulation Underlies Its Transforming Activity ***MCB*** 2006. 26:3810-3823
14. Louie M.C., Zou J.X., Rabinovich, A., Chen H.W. ACTR/AIB1 functions as an E2F1 coactivator to promote breast cancer cell proliferation and anti-estrogen resistance. ***MCB*** 2004. 24:5157-5171
15. Louie M.C., Yang Q.H., Ma A.H., Zou J.X., Kung H.K., Chen H.W. Androgen-induced recruitment of RNA polymerase II to a nuclear receptor-p160 coactivator complex. ***PNAS*** 2003. 100(5): 2226-223

16. Lee L.F, **Louie M.C.**, Yang J., Desai S., Evans C.P., Chen H.W., Kung, H.J. Interleukin 8 confers androgen independent growth and migration in LNCaP: Differential Effects of Tyrosine Kinases Src and FAK. **Oncogene** 2004. 1-9
17. **Louie M.C.**, Kondor N., and DeWitt J.G. Gene expression in cadmium-tolerant *Datura innoxia*: detection and characterization of cDNAs induced in response to Cd²⁺ Plant Molecular Biology. **Plant Molecular Biology** 2003. 51(1): 81-89

***Corresponding Author**

INVITED TALKS

1. University of California at Davis T32 NIH Training Grant Symposium. Alternative Career Paths. November 21, 2014 Davis, CA
2. Chronic Cadmium Exposure Promotes Breast Cancer Progression. The 7th Conference on Metal Toxicity and Carcinogenesis. October 21-24th, 2012 Albuquerque, NM
3. Cadmium as an Estrogen Receptor Modulator. ENDO 2011: The 93rd Annual Meeting and Exposition June 4th-June 7th, 2011 Boston, MA
4. The effects of Cadmium on Breast Cancer Progression. The 6th Conference on Metal Toxicity and Carcinogenesis. November 14-17, 2010 Lexington, KY