

## Curriculum Vitae

### Kyung U. Hong, Ph.D.

#### Address:

Department of Pharmacology and Toxicology  
University of Louisville School of Medicine  
505 S. Hancock Street, CTRB Rm. 118  
Louisville, Kentucky 40202  
Cell phone: 502-821-4077  
E-mail: [kuhong01@louisville.edu](mailto:kuhong01@louisville.edu)

#### Education:

- Ph.D.** March 2003. **Toxicology** Program, Department of Environmental Medicine  
University of Rochester, School of Medicine and Dentistry, Rochester, NY  
Dissertation: *Cell Lineage Relationships within Conducting Airway Epithelium*  
Advisor: Barry R. Stripp, Ph.D.
- M.S.** March 2001. **Toxicology** Program, Department of Environmental Medicine  
University of Rochester, School of Medicine and Dentistry, Rochester, NY  
Thesis: *Cell Lineage Relationships within Conducting Airway Epithelium*  
Advisor: Barry R. Stripp, Ph.D.
- B.S.** September 1996. *High Honors*. Department of **Environmental Toxicology**  
University of California at Davis, Davis, CA

#### Professional Experiences:

- Oct. 2018 – present**      **Assistant Professor**  
Department of Pharmacology and Toxicology, University of Louisville School  
of Medicine (Louisville, KY)  
Research Topics:
- Pharmacology and toxicogenomics of arylamine *N*-acetyltransferase 2 (NAT2), a phase II metabolic enzyme
  - Role of NAT2 in development of insulin resistance and metabolic syndrome
  - Heterocyclic amine exposure and insulin resistance
- Aug. 2010 – Sep. 2018**      **Assistant Professor of Medicine**  
Division of Cardiovascular Medicine, Department of Medicine, University of  
Louisville School of Medicine (Louisville, KY)  
Research Topics:
- Biology of c-kit+ resident cardiac progenitor cells (CPCs)
  - Enhancing survival characteristics of CPCs via ex vivo genetic engineering
  - Cardiac transcription factor-based programming of CPCs for promoting differentiation

- Role of c-kit in CPCs
- Development of a novel qPCR-based approach to measure the absolute number of donor cells in recipient tissues
- Human heart-specific long non-coding RNAs
- Development of a molecular probe for monitoring cardiomyocyte proliferation

**Mar. 2007 – July 2010    Research Assistant Professor**

Department of Molecular Cell Biology, Sungkyunkwan University School of Medicine (Suwon, Republic of Korea)

Research Topics:

- Role of a novel tumor-associated protein, TMAP/CKAP2, in mitotic spindle assembly and chromosome segregation
- Mechanisms of regulation of TMAP at the post-translational level
- Establishing transgenic and knockout mouse models for TMAP.
- Role of TMAP in early embryo development
- Testing the tumorigenic potential of TMAP using in vivo mouse models
- Cancer gene therapeutic approach using a non-degradable mutant form of TMAP
- Characterization of FLJ40629, a paralogue of TMAP

**Feb. 2007 – Dec. 2009    Senior Scientist**

Genome Research Center, Samsung Biomedical Research Institute, Samsung Medical Center (Seoul, Republic of Korea)

Research Topics: \* Same as above

**Mar. 2003 – Jan. 2007    Postdoctoral Fellow / Professional Research Agent**

Samsung Biomedical Research Institute, Sungkyunkwan University School of Medicine (Suwon, Republic of Korea) (Dr. Joobae Park)

Research Topics: \* Same as above

**Sep. 2002 – Dec. 2006    Free-Lance Technical Translator**

Medical Consulting / Global Bridge Service (Seoul, Republic of Korea)

Job descriptions: Technical translation (Korean to English) of pre-clinical and clinical trial reports for drugs developed by pharmaceutical and biotech companies based in Korea

**May 1998 – Dec. 2002    Graduate Student / Research Assistant**

Department of Environmental Medicine, University of Rochester, School of Medicine and Dentistry (Dr. Barry R. Stripp) (Rochester, NY)

Research Topics:

- The progenitor-progeny relationships within conducting airway epithelium
- Development of transgenic mouse models of lung injury and repair
- Identification of the stem cell populations and their microenvironments within conducting airway epithelium
- Establishment of an unique in vivo cell type-specific lineage-tagging system using K14-CreERTam transgenic mice
- Proliferation and differentiation potential of airway basal cells

**Sep. 1996 – Aug. 1997    Laboratory Assistant**

Department of Entomology and Environmental Toxicology, UC Davis (Davis, CA.)

Job descriptions: Purification and analysis of toxic metabolites of 4-ipomeanol

### July 1995 – April 1996 **Laboratory Assistant**

Department of Environmental Toxicology, UC Davis (Davis, CA.)

Job descriptions: General lab maintenance work

### Honors & Awards:

- Departmental Citation (Outstanding performance citation) in Environmental Toxicology (at UC Davis) (1995-1996)
- Dean's Honors List (The College of Agricultural and Environmental Sciences, UC Davis) (Spring 1994 – Spring 1996)
- American Thoracic Society Young Investigator Travel Award (May 2002)
- Excellent Poster Award (Korean Society for Molecular and Cellular Biology; Oct. 2004)
- The First Prize in Poster Presentation (The 12<sup>th</sup> East Asia Joint Symposium on Biomedical Research; Nov. 2005)
- Excellent Poster Presentation Award (Korean Society of Medical Biochemistry and Molecular Biology; Oct. 2006)
- The Outstanding Publication Award (Samsung Biomedical Research Institute; Feb. 2008)
- The Outstanding Faculty of the Year (Institute of Molecular Cardiology, University of Louisville; Dec. 2011)

### Teaching Experience:

#### At Sungkyunkwan University School of Medicine

Spring 2005 Co-director for a graduate-level course, "**Current Methods in Biomedical Research**"  
Course Description: This course was designed to teach the student to 1) learn a variety of molecular and cellular techniques used in biomedical sciences; 2) understand advantages and limitations of each technique; 3) develop ability to critically assess scientific data; and 4) ultimately develop ability to design experiments using the tools of molecular cell biology. Students are introduced to both traditional and state-of-the-art molecular techniques used in modern biology laboratories.

2004-2010 Mentor/instructor for the "**Basic Biomedical Research Lab**" course for medical students

#### At University of Louisville

2017 - Present Instructor/Lecturer, **Graduate Pharmacology I** (Pharmacology and Toxicology 641)  
Course Description: This is a Graduate level course that will provide a foundation of the general principles of pharmacology upon which the students can subsequently build their knowledge in pharmacology. The course will progress through Katzung's Basic & Clinical Pharmacology to introduce these fundamental areas.

2018 - Present Instructor/Lecturer, **Graduate Pharmacology II** (Pharmacology and Toxicology 642)  
Course Description: This is a Graduate level course that will provide a foundation of the general principles and research methods of pharmacology. The course will progress through Basic & Clinical Pharmacology chapters to introduce the fundamental areas. This will be supplemented by faculty lectures on current research methods. In addition,

presentation and discussion of assigned research articles will be used to reinforce the fundamental pharmacological principles and research methods introduced through chapters and lectures.

- 2018 - Present Instructor, **Pharmacology and Dental Therapeutics** (UofL Dental School, BMSC 807)  
Course Description: The Pharmacology and Dental Therapeutics course is designed to provide broad pharmacokinetic and pharmacodynamic principles towards for the major drug groups utilized in dentistry by health care providers and their patients. The course content emphasizes mastery of the principles required for lifelong learning of both current and yet to be released drugs to ensure appropriate therapeutic utilization that maximizes efficacy and minimizes toxicity in each individual patient.
- 2019 - Present Director, **Dental Hygiene Pharmacology** (UofL Dental School, DHED 402)  
Course Description: The course is designed to provide broad pharmacokinetic and pharmacodynamic principles towards for the major drug groups utilized in dentistry and dental hygiene settings. The course content emphasizes mastery of the principles required for lifelong learning of both current and yet to be released drugs to ensure appropriate therapeutic utilization that maximizes efficacy and minimizes toxicity in each individual patient.
- 2020 - Present Director, **Pharmacology and Toxicology Departmental Seminar** (UofL PHTX 606)  
Course Description: Pharmacology and Toxicology Departmental Seminar is a survey course designed to acquaint first and second year PHTX graduate students with a broad range of basic science subject matter and the organization of a scientific presentation.

### Mentees / Students / Trainees:

- 2004-2010 Mentor/instructor for the “**Basic Biomedical Research Lab**” course for medical students
- 2007-2008 Mentor for **Gu-Sang Kwon**, an undergraduate at Sungkyunkwan University
- 2007-2010 Co-supervisor for **Hye-Rim Kwon**, a M.S. student at Sungkyunkwan University  
 (Project title: Characterization of a novel mitotic spindle-associated protein, FLJ40629)
- 2008-2010 Mentor for **Jin-Sun Jung**, an undergraduate at Sungkyunkwan University  
 (Project title: Development of fluorescent probes for suborganellar structures)
- 2009-2010 Co-supervisor for **Kee-Eun Choi**, a graduate student at Sungkyunkwan University  
 (Project title: Generation of a conditional knockout mouse model for *Ckap2*)
- 2011-2015 Mentor for **Bathri N. Vajravelu**, a graduate student (Dept. of Biochemistry and Molecular Biology) (Project title: The role of c-kit signaling in maintenance and differentiation of cardiac stem cells)  
 Current position: Associate Professor at MCPHS University (Boston, MA)
- 2011-2012 Mentor for **David M. Tran**, a graduate student (Dept. of Physiology and Biophysics)  
 (Project title: Cardiac progenitor cell in vivo gene expression system)
- 2011-2012 Mentor for **Afsoon Moktar**, Ph.D., a postdoctoral fellow  
 (Project title: Selective ablation of cardiac stem cells in vivo;  
 Current position: Associate Professor at MCPHS University (Boston, MA)
- 2012-2015 Mentor for **Tareq Mohammed Al-Maqtari**, a graduate student (Dept. of Pharmacology and Toxicology) (Project title: Directed differentiation of cardiac stem cells.)
- 2013-2014 Mentor for **Pengxiao Cao, Ph.D.**, a postdoctoral fellow  
 (Project title: Cardiac stem cell-specific in vivo gene expression system.)
- 2014-2017 Mentor for **Michael J. Book**, a graduate student (Dept. of Physiology and Biophysics)

(Project title: Telomerase reporter-based selection of cardiac stem cells.)  
 Current position: Executive Director of Clinical Studies at VA Hospital (Louisville, KY).

2018-2019	Co-mentor for <b>Rasha Attia</b> , a graduate student (Dept. of Pharmacology and Toxicology)
2018-2019	Co-mentor for <b>Paige N. Mitchell</b> , a graduate student (Dept. of Pharmacology and Toxicology)
2018-2019	Co-mentor for <b>Mariam Habil</b> , a graduate student (Dept. of Pharmacology and Toxicology)
2020-Present	Co-mentor for <b>Kennedy M. Walls</b> , a Ph.D. candidate (Dept. of Pharmacology and Toxicology)
2021-Present	Co-mentor for <b>Afi H. Tagnedji</b> , an undergraduate (Dept. of Chemistry, Univ. of Louisville). Barry Goldwater Scholar; AACR Scholar.

## Publications:

1. **Hong KU**, Gardner JQ, Doll MA, Stepp MW, Wilkey DW, Benz FW, Cai J, Merchant ML, Hein DW. 2022. Dataset for proteomic analysis of arylamine N-acetyltransferase 1 knockout MDA-MB-231 breast cancer cells. *Data Brief*. Sep 24;45:108634. doi: 10.1016/j.dib.2022.108634. eCollection 2022 Dec. PMID: 36426076
2. **Hong KU\***, Tagnedji AF, Doll MA, Walls KM, Hein DW. 2022. Upregulation of cytidine deaminase in NAT1 knockout breast cancer cells. *J Cancer Res Clin Oncol*. 2022 Nov 3. doi: 10.1007/s00432-022-04436-w. Online ahead of print. PMID: 36329350 (\* **Co-corresponding author**)
3. **Hong KU**, Gardner JQ, Doll MA, Stepp MW, Wilkey DW, Benz FW, Cai J, Merchant ML, Hein DW. Proteomic analysis of arylamine N-acetyltransferase 1 knockout breast cancer cells: Implications in immune evasion and mitochondrial biogenesis. 2022. *Toxicol Rep*. 9:1566-1573. doi: 10.1016/j.toxrep.2022.07.010. PMID: 36158865.
4. **Hong KU\***, Salazar-González RA, Walls KM, Hein DW. Transcriptional Regulation of Human Arylamine N-Acetyltransferase 2 Gene by Glucose and Insulin in Liver Cancer Cell Lines. *Toxicol Sci*. 2022 Sep 26:kfac103. doi: 10.1093/toxsci/kfac103. Online ahead of print. PMID: 36156098. (\* **Co-corresponding author**)
5. Doll MA, Ray AR, Salazar-González RA, Shah PP, Vega AA, Sears SM, Krueger AM, **Hong KU**, Beverly LJ, Hein DW. Deletion of arylamine N-acetyltransferase 1 in MDA-MB-231 human breast cancer cells reduces primary and secondary tumor growth in vivo with no significant effects on metastasis. 2022. *Mol Carcinog*. 61(5):481-493. doi: 10.1002/mc.23392. PMID: 35133049
6. **Hong KU**, Doll MA, Lykoudi A, Salazar-González RA, Habil MR, Walls KM, Bakr AF, Ghare SS, Barve SS, Arteel GE, Hein DW. 2020. Acetylator Genotype-Dependent Dyslipidemia in Rats Congenic for N-Acetyltransferase 2. *Toxicol Rep*. 7:1319-1330. doi: 10.1016/j.toxrep.2020.09.011. PMID: 33083237.
7. Carlisle SM, Trainor PJ, **Hong KU**, Doll MA, Hein DW. 2020. CRISPR/Cas9 knockout of human arylamine N-acetyltransferase 1 in MDA-MB-231 breast cancer cells suggests a role in cellular metabolism. *Sci Rep*. 10(1):9804. PMID: 32555504
8. Stepp MW, Salazar-González RA, **Hong KU**, Doll MA & Hein DW. 2019. N-acetyltransferase 1 Knockout Elevates Acetyl Coenzyme A Levels and Reduces Anchorage-independent Growth in Human Breast Cancer Cell Lines. *J Oncol*. 2019:3860426. PMID: 31531019
9. Al-Maqtari T\*, **Hong KU\***, Vajravelu B, Mokhtar A, Cao P, Bhatnagar A, Bolli R. 2017. Transcription Factor-Induced Activation of Cardiac Gene Expression in c-kit+ Cardiac Progenitor Cells. *PLoS One*. 12(3):e0174242. (\* Co-first authors)
10. Guo Y, Wysoczynski M, Nong Y, Tomlin A, Zhu X, Gumpert AM, Nasr M, Muthusamy S, Li H, Book M, Khan A, **Hong KU**, Li Q, Bolli R. 2017. Repeated doses of cardiac mesenchymal cells are therapeutically superior to a single dose in mice with old myocardial infarction. *Basic Res Cardiol*. 112(2):18.

11. **Hong KU** and Bolli R. 2015. Therapy with c-kit<sup>POS</sup> Cardiac Stem Cells for Ischemic Cardiomyopathy. In J. Willerson (Eds.), *Stem Cell and Gene Therapy for Cardiovascular Disease*. Cambridge, MA: Elsevier, Inc. 21st August 2015. ISBN: 9780128018880.
12. Moore JB 4th, Zhao J, Keith MC, Amraotkar AR, Wysoczynski M, **Hong KU**, Bolli R. 2016. The Epigenetic Regulator HDAC1 Modulates Transcription of a Core Cardiogenic Program in Human Cardiac Mesenchymal Stromal Cells Through a p53-Dependent Mechanism. *Stem Cells*. 34(12):2916-2929.
13. Tokita Y, Tang XL, Li Q, Wysoczynski M, **Hong KU**, Nakamura S, Wu WJ, Xie W, Li D, Hunt G, Ou Q, Stowers H, Bolli R. 2016. Repeated Administrations of Cardiac Progenitor Cells Are Markedly More Effective Than a Single Administration: A New Paradigm in Cell Therapy. *Circ Res*. 119(5):635-51.
14. Salabei JK, Lorkiewicz PK, Mehra P, Gibb AA, Haberzettl P, **Hong KU**, Wei X, Zhang X, Li Q, Wysoczynski M, Bolli R, Bhatnagar A, Hill BG. 2016. Type 2 Diabetes Dysregulates Glucose Metabolism in Cardiac Progenitor Cells. *J Biol Chem*. 291(26):13634-48.
15. Muthusamy S, **Hong KU**, Dassanayaka S, Hamid T, Jones SP. 2015. E2F1 transcription factor regulates O-GlcNAc transferase and O-GlcNAcase expression. *J Biol Chem*. 290(52):31013-24.
16. Vajravelu BN\*, **Hong KU**\*, Al-Maqtari T, Cao P, Keith MC, Wysoczynski M, Zhao J, Moore Iv JB, Bolli R. 2015. c-Kit Promotes Growth and Migration of Human Cardiac Progenitor Cells via the PI3K-AKT and MEK-ERK Pathways. *PLoS One*. 10(10):e0140798. doi: 10.1371/journal.pone.0140798. eCollection 2015. (\*, Equally contributing)
17. Cai C, Guo Y, Teng L, Nong Y, Tan M, Book MJ, Zhu X, Wang XL, Du J, Wu WJ, Xie W, **Hong KU**, Li Q, Bolli R. 2015. Preconditioning Human Cardiac Stem Cells with an HO-1 Inducer Exerts Beneficial Effects After Cell Transplantation in the Infarcted Murine Heart. *Stem Cells*. 33(12):3596-607.
18. Salabei JK, Lorkiewicz PK, Holden CR, Li Q, **Hong KU**, Bolli R, Bhatnagar A, Hill BG. 2015. Glutamine Regulates Cardiac Progenitor Cell Metabolism and Proliferation. *Stem Cells*. 33(8):2613-27.
19. Keith MC, Tang XL, Tokita Y, Li QH, Ghafghazi S, Moore Iv J, **Hong KU**, Elmore B, Amraotkar A, Ganzel BL, Grubb KJ, Flaherty MP, Hunt G, Vajravelu B, Wysoczynski M, Bolli R. 2015. Safety of intracoronary infusion of 20 million C-kit positive human cardiac stem cells in pigs. *PLoS One*. 10(4):e0124227. doi: 10.1371/journal.pone.0124227. eCollection 2015.
20. Keith CLM, Tokita Y, Tang X, Ghafghazi S, Moore IV JB, **Hong KU**, Elmore B, Amraotkar A, Guo H, Ganzel BL, Grubb KJ, Flaherty MP, Hung G, Stowers H, Wu W, Vajravelu B, Wysoczynski M, and Bolli R. 2015. Effect of the stop-flow technique on cardiac retention of c-kit positive human cardiac stem cells after intracoronary infusion in a porcine model of chronic ischemic cardiomyopathy. *Basic Res Cardiol*. 110(5):503.
21. Moore IV JB, Loeb DM, **Hong KU**, Sorensen PH, Triche TJ, Lee DW, Barbato M, Arceci RJ. 2015. Epigenetic reprogramming and re-differentiation of a Ewing sarcoma cell line. *Front Cell Dev Biol*. doi: 10.3389/fcell.2015.00015. eCollection 2015.
22. Muthusamy S, DeMartino AM, Watson LJ, Brittan KR, Zafir A, Dassanayaka S, **Hong KU**, Jones SP. 2014. MicroRNA-539 is up-regulated in failing heart, and suppresses O-GlcNAcase expression. *J Biol Chem*. 289(43):29665-76.
23. **Hong KU**, Bolli R. Cardiac stem cell therapy for cardiac repair. 2014. *Curr Treat Options Cardiovasc Med*. 16(7):324.
24. Wysoczynski M, **Hong KU**, Moore JB 4th. 2014. Bone marrow cell therapies in ischemic cardiomyopathy. *Expert Opin Biol Ther*. 14(9):1229-32.
25. **Hong KU**, Guo Y, Li Q, Cao P, Al-Maqtari T, Vajravelu BN, Du J, Book MJ, Zhu X, Nong Y, Bhatnagar A, Bolli R. 2014. c-kit<sup>+</sup> cardiac stem cells alleviate post-myocardial infarction left ventricular dysfunction despite poor engraftment and negligible retention in the recipient heart. *PLoS One*. 9(5):e96725.

26. **Hong KU\***, Moore JB 4th. 2013. Recent advances in cardiac myocyte biology and function. *Circ Res.* 113(12):e121-4. (\* Corresponding author)
27. **Hong KU**, Li QH, Guo Y, Patton NS, Mokhtar A, Bhatnagar A, Bolli R. 2013. A highly sensitive and accurate method to quantify absolute numbers of c-kit+ cardiac stem cells following transplantation in mice. *Basic Res Cardiol.* 108(3):346. Epub 2013 Apr 3.
28. Kim HS, Choi YB, Lee JH, Park SY, Kim HK, Koh JS, Yi SY, Kim KT, **Hong KU**, Park J, Bae CD, Hong KM. 2012. Condensed chromatin staining of CKAP2 as surrogate marker for mitotic figures. *J Cancer Res Clin Oncol.* 138(1):95-102.
29. Kim HJ, Kwon HR, Bae CD, Park J, **Hong KU\***. 2010. Specific primary sequence requirements for Aurora B kinase-mediated phosphorylation and subcellular localization of TMAP during mitosis. *Cell Cycle.* 9(10):2027-2036. (\* Corresponding author) **[Cover issue]**
30. **Hong KU**, Kim HJ, Bae CD, Park J. 2009. Characterization of mitosis-specific phosphorylation of tumor-associated microtubule-associated protein. *Exp Mol Med.* 41(11):832-840.
31. **Hong KU**, Kim HJ, Kim HS, Seong YS, Hong KM, Bae CD, Park J. 2009. Cdk1-Cyclin B1-mediated phosphorylation of tumor-associated microtubule-associated protein/cytoskeleton-associated protein 2 in mitosis. *J Biol Chem.* 284(24):16501-12.
32. **Hong KU**, Kim E, Bae CD, Park J. 2009. TMAP/CKAP2 is essential for proper chromosome segregation. *Cell Cycle.* 8(2):314-24. **[Cover issue]**
33. **Hong KU**, Choi YB, Lee JH, Kim HJ, Kwon HR, Seong YS, Kim HT, Park J, Bae CD, Hong KM. 2008. Transient phosphorylation of tumor associated microtubule associated protein (TMAP)/cytoskeleton associated protein 2 (CKAP2) at Thr-596 during early phases of mitosis. *Exp Mol Med.* 40(4):377-86.
34. **Hong KU**, Park YS, Seong YS, Kang D, Bae CD, Park J. 2007. Functional importance of the anaphase-promoting complex-Cdh1-mediated degradation of TMAP/CKAP2 in regulation of spindle function and cytokinesis. *Mol Cell Biol.* 27(10):3667-81.
35. Jeon SM, Choi B, **Hong KU**, Kim E, Seong YS, Bae CD, Park J. 2006. A cytoskeleton-associated protein, TMAP/CKAP2, is involved in the proliferation of human foreskin fibroblasts. *Biochem Biophys Res Commun.* 348(1):222-8.
36. Reynolds SD, Giangreco A, **Hong KU**, McGrath KE, Ortiz LA, Stripp BR. 2004. Airway injury in lung disease pathophysiology: selective depletion of airway stem and progenitor cell pools potentiates lung inflammation and alveolar dysfunction. *Am J Physiol Lung Cell Mol Physiol.* 287(6):L1256-65.
37. **Hong KU**, Reynolds SD, Watkins S, Fuchs E, Stripp BR. 2004. Basal cells are a multipotent progenitor capable of renewing the bronchial epithelium. *Am J Pathol.* 164(2):577-88.
38. **Hong KU**, Reynolds SD, Watkins S, Fuchs E, Stripp BR. 2004. In vivo differentiation potential of tracheal basal cells: evidence for multipotent and unipotent subpopulations. *Am J Physiol Lung Cell Mol Physiol.* 286(4):L643-9.
39. Cheong C, **Hong KU**, Lee HW. 2003. Mouse models for telomere and telomerase biology. *Exp Mol Med.* 35(3):141-53.
40. **Hong KU**, Reynolds SD, Giangreco A, Hurley CM, Stripp BR. 2001. Clara cell secretory protein-expressing cells of the airway neuroepithelial body microenvironment include a label-retaining subset and are critical for epithelial renewal after progenitor cell depletion. *Am J Respir Cell Mol Biol.* 24(6):671-81. **[Cover issue]**
41. Reynolds SD, **Hong KU**, Giangreco A, Mango GW, Guron C, Morimoto Y, Stripp BR. 2000. Conditional clara cell ablation reveals a self-renewing progenitor function of pulmonary neuroendocrine cells. *Am J Physiol Lung Cell Mol Physiol.* 278(6):L1256-63.

## Conference Presentations (in 2022):

1. “Heterocyclic Amines Induce Changes in Glucose Production and Insulin Signaling in Human Hepatocytes” Kennedy M. Walls, M.S., Kyung U. Hong, Ph.D., David W. Hein, Ph.D. Society of Toxicology (SOT) annual meeting – March 27-31, 2022; San Diego, CA
2. “Transcriptional Regulation of Human Arylamine N-Acetyltransferase 2 Gene by Glucose and Insulin in Liver Cancer Cell Lines.” Kennedy M. Walls, Kyung U. Hong, Raúl A. Salazar-González, and David W. Hein. Ohio Valley OVSOT summer student meeting – July 29, 2022; virtual
3. “Hepatic metabolism of heterocyclic amines contributes to induction of glucose production and gluconeogenic gene expression in hepatocytes” Kennedy M. Walls, M.S., Kyung U. Hong, Ph.D., David W. Hein, Ph.D. Research! Louisville – September 19 -23, 2022; Louisville, KY
4. “Transcriptional Regulation of Human Arylamine N-Acetyltransferase 2 Gene by Glucose and Insulin in Liver Cancer Cell Lines.” Kyung U. Hong, Kennedy M. Walls, David W. Hein. Research Louisville 2022.
5. “Hepatic metabolism of heterocyclic amines contributes to induction of glucose production and gluconeogenic gene expression in hepatocytes” Kennedy M. Walls, M.S., Kyung U. Hong, Ph.D., David W. Hein, Ph.D. Ohio Valley OVSOT annual fall meeting – October 14, 2022; Louisville, KY
6. “Hepatic metabolism of heterocyclic amines contributes to induction of glucose production and gluconeogenic gene expression in hepatocytes” Kennedy M. Walls, M.S., Kyung U. Hong, Ph.D., David W. Hein, Ph.D. Superfund Research Program (SRP) Annual Meeting, Raleigh, NC. Dec, 2022.
7. “The Effects of N-acetyltransferase 1 Gene Knockout on the Cytotoxicity of Pyrimidine Biosynthesis Inhibitors in Human Breast Cancer Cells.” Afi H. Tagnedji, Kyung U. Hong, Ph. D, and David W. Hein, Ph.D. American Association for Cancer Research 2022 Meeting, New Orleans Louisiana. April, 2022.
8. “Upregulation of Cytidine Deaminase in NAT1 Knockout Breast Cancer Cells.” Afi H. Tagnedji, Kyung U. Hong, Ph. D., Mark Doll, and David W. Hein, Ph.D. University of Louisville STEM admission Trips, Owensboro Kentucky. Sep 30, 2022.
9. “Upregulation of Cytidine Deaminase in NAT1 Knockout Breast Cancer Cells. Afi H. Tagnedji, Kyung U. Hong, Ph. D., Mark Doll, and David W. Hein, Ph.D. 9/23/2022 September University of Louisville Board of Trustees Meeting. Sep 23, 2022.
10. “Upregulation of Cytidine Deaminase in NAT1 Knockout Breast Cancer Cells” Afi H. Tagnedji, Kyung U. Hong, Ph. D., Mark Doll, and David W. Hein, Ph.D. Kentucky Science Center Youth Summit Louisville, Kentucky. Nov 10, 2022.
11. “Upregulation of Cytidine Deaminase in NAT1 Knockout Breast Cancer Cells.” Afi H. Tagnedji, Kyung U. Hong, Ph. D., Mark Doll, and David W. Hein, Ph.D. RESEARCH! Louisville Undergraduate Student Poster Session, Louisville, Kentucky. Aug 5, 2022.
12. “The Effects of N-acetyltransferase 1 Gene Knockout on the Cytotoxicity of Pyrimidine Biosynthesis Inhibitors in Human Breast Cancer Cells.” Afi H. Tagnedji, Kyung U. Hong, Ph. D., Mark Doll, and David W. Hein, Ph.D. 4/1-3/ 2022 ACC Meeting of Minds University of North Carolina, North Carolina
13. “Upregulation of Cytidine Deaminase in NAT1 Knockout Breast Cancer Cells.” Afi H. Tagnedji, Kyung U. Hong, Ph. D., Mark Doll, and David W. Hein, Ph.D. Society of Toxicology Ohio Valley Region Presentation, University of Louisville Kentucky. Oct. 14, 2022.
14. “The Effects of N-acetyltransferase 1 Gene Knockout on the Cytotoxicity of Pyrimidine Biosynthesis Inhibitors in Human Breast Cancer Cells.” Afi H. Tagnedji, Kyung U. Hong, Ph. D., Mark Doll, and David W. Hein, Ph.D. National Collegiate Honors Council Conference. Dallas, Texas. Nov. 2-6, 2022.
15. “The Effects of N-acetyltransferase 1 Gene Knockout on the Cytotoxicity of Pyrimidine Biosynthesis Inhibitors in Human Breast Cancer Cells.” Afi H. Tagnedji, Kyung U. Hong, Ph. D., Mark Doll, and David W. Hein, Ph.D. Southern Regional Honors Conference Birmingham Alabama. March 20, 2022.
16. “The Effects of N-acetyltransferase 1 Gene Knockout on the Cytotoxicity of Pyrimidine Biosynthesis Inhibitors in Human Breast Cancer Cells.” Afi H. Tagnedji, Kyung U. Hong, Ph. D., Mark Doll, and David W. Hein, Ph.D. Kentucky Honors Roundtable Conference, Murray Kentucky. March 4, 2022.

## Invited Presentations:

**Enhancing the Therapeutic Potential of Cardiac Stem Cells.** Kyung U. Hong, Ph.D., The Cardiovascular Forum (Scientific Symposium 2: Stem Cells and Cardiac Regeneration). Louisville, KY. 2013.



## Past Funding Support:

October 1, 2020 – March 31, 2021

**University of Louisville, School of Medicine Basic Grant** on “Effect of Heterocyclic Amines and NAT2 Metabolism on Insulin Sensitivity” \$21,028. PI: Kyung U. Hong, Ph.D.

June 1, 2020 - March 31, 2021

**University of Louisville, EVPRI Research II grant** (on HCA-insulin resistance) \$9,960. PI: Kyung U. Hong, Ph.D.

2011-2016 **preclinical AssESsment of CARdioprotective therapies (CAESAR)** (U24HL094373)

PI: Roberto Bolli, M.D.

Role: Co-investigator [20% effort]

2011-2016 **Role of the NO-CO Module in Regulating CPC Function** (Project 1; 2P01HL078825-06)

PI: Roberto Bolli, M.D.

Role: Co-investigator [5% effort]

2P20GM103492-06 (Bhatnagar, PI)

09/01/13 - 09/31/14

### **Center of Excellence in Diabetes and Obesity Research**

The overall goal of this COBRE is to establish an internationally recognized Center for Diabetes and Obesity Research aimed at understanding the cardiovascular causes and consequences of diabetes and obesity.

Role: Project Leader/PI (Project 4: Cardiac Stem Cell Dysfunction in Diabetes)

8P20GM103492-05 (Bhatnagar, PI)

09/26/08 - 06/30/13

### **Center of Excellence in Diabetes and Obesity Research**

The overall goal of this COBRE is to establish an internationally recognized Center for Diabetes and Obesity Research aimed at understanding the cardiovascular causes and consequences of diabetes and obesity.

Role: Project Leader (Project 2: Mechanism of Maintenance and Renewal of Myocardium)

### **Functional role of a novel cell cycle regulator, TMAP/CKAP2**

2007-2010

National R&D Program for Cancer Control, Ministry of Health and Welfare (Korea) Research Grant (#0720370) PI's: **Kyung U. Hong, Ph.D.**, Joobae Park, M.D., Ph.D., and Chang-Dae Bae, M.D., Ph.D. (Approx. \$150,000 per year for 3 years)

## Journal Review Activities:

2015-present

*PLoS One*

2014-present

Review Editor, *Frontiers in Physiology (Striated Muscle Physiology)*

2012-present

*Journal of Molecular and Cellular Cardiology*

2011-present

*Circulation Research*

2011-present

*Basic Research in Cardiology*

2010-present

*Free Radical Biology and Medicine*

2009-present

*Experimental and Molecular Medicine*

**Language Proficiencies:**

English

Korean