

CURRICULUM VITAE

A. DATE PREPARED: March 10, 2016

B. BIOGRAPHICAL INFORMATION

1. Name: Kiwon Ban

2. Address: 1/F, Block 1, To Yuen Building, 31 To Yuen Street, Kowloon Tong, Hong Kong

3. E-mail: kiwonban@cityu.edu.hk

4. Education:

2010 PhD, University of Toronto, Toronto, Canada (Cardiovascular physiology)

2005 MSc, University of Toronto, Toronto, Canada (Cardiovascular physiology)

2000 MSc, Dongguk University, Seoul, Korea (Microbiology)

1998 BSc, Dongguk University, Seoul, Korea (Applied Biology)

5. Employment:

2016- City University of Hong Kong, Department of Biomedical Sciences

2010-2015 Emory University, Division of Cardiology, Atlanta, GA, USA

2003-2010 University of Toronto & Toronto General Hospital Research Institute

2000-2002 Jongro institute for secondary education (Science Teacher) Seoul, Korea

1998-2000 Teaching Assistant, (General Biology and Micro Biology), Department of Applied Biology, Dongguk University, Seoul, Korea

6. Current position

Assistant Professor, Department of Biomedical Sciences, City University of Hong Kong

7. Other Experience and Professional Memberships

Member, Canadian Cardiovascular Society (2006 - Present)

Member, American Heart Association (2006 - Present)

Member, Biomedical Engineering Society (2013 - Present)

C. HONORS:

1. Teaching Assistant Scholarship, Dept. of Applied Biology. Dongguk University (1998-9)

2. University of Toronto Scholarship (2003-6)

3. Canadian Cardiovascular Congress (CCC) Student presentation award competition Finalist (2007)

4. American Heart Association (AHA) conference council on basic cardiovascular sciences travel fellowship (2007)

5. Heart and stroke Richard Lewar centre of Excellence Student scholarship (2007-8)

6. Frontier In Physiology (FIP) oral presentation competition 1st prize winner (2009)
- Annual research day in the department of physiology at University of Toronto

7. The government of Ontario graduate scholarship in science and technology (OGSST) (2009)
8. American Heart Association (AHA) conference council on basic cardiovascular sciences abstract travel fellowship (2009)
9. American Heart Association (AHA) postdoctoral fellowship (2012-2014)
10. Emory Cardiology Training Fund Fellowship (2014)
11. Emory University Research Committee Research Grant (2015)

D. Review Activities

- Journal Reviewer

Ad-hoc reviewer: Cell Transplantation (2015-), Stem Cell International (2015-) and PLOS ONE (2015-).

E. RESEARCH ACHIVEMENTS

1. PUBLICATIONS:

A. Published peer reviewed articles:

1. **Ban K**, Wile B, Cho KW, Kim S, Song MK, Kim SY, Singer J, Syed A, Yu SP, Wagner M, Bao G, and Yoon YS; *Non-genetic Purification of Ventricular Cardiomyocytes from Differentiating Embryonic Stem Cells through Molecular Beacons Targeting a Ventricle-Specific Transcription Factor*. **Stem cell reports**. 2015 Dec 8;5(6):1239-49
2. Wile B*, **Ban K***, Yoon YS⁺, and Bao G⁺; *Molecular beacon enabled purification of living cells by targeting cell-type specific mRNAs*. **Nature Protocols**. 2014 Oct; 9(10): 2411-2424
(* and +: contributed equally)
3. **Ban K**, HJ Park, Kim S, K Cho and Yoon YS; *Cell therapy with embryonic stem cell-derived cardiomyocytes encapsulated in injectable nanomatrix gel enhances cell engraftment and promotes cardiac repair in experimental myocardial infarction*. **ACS Nano**. 2014 Oct 28; 8(10):10815-10825
4. Boopathy AV, Che PL, Somasuntharam I, Fiore VF, Cabigas EB, **Ban K**, Brown ME, Narui Y, Barker T3, Yoon YS, Salaita K, García AJ, Davis ME; *The modulation of cardiac progenitor cell function by hydrogel-dependent Notch1 activation*. **Biomaterials**. 2014. Sep; 35(28): 8103-8112
5. **Ban K**, Wile B, Kim S, Byun J, Saafir T, MK Song, sP Yu, Wagner M, Bao G and Yoon YS; *Purification of cardiomyocytes from differentiating human pluripotent stem cells using molecular beacons targeting mRNA of a cardiomyocyte-specific gene*. **Circulation**. 2013 Oct 28; 128(17) 1897-1909.
6. Moon SH, **Ban K**, Kim C, Kim SS, Byun J, Song MK, Park IH, Yu SP, Yoon YS; *Development of a novel two-dimensional directed differentiation system for generation of cardiomyocytes from human pluripotent stem cells*. **International Journal of Cardiology**. 2013 Sep 20; 168(1): 41-52A

7. Hui S, Choi J, Zaidi S, Momen A, Steinbach SK, Sadi AM, **Ban K** and Husain M; *Peptide-mediated disruption of Calmodulin–Cyclin E interactions inhibits proliferation of vascular smooth muscle cells and neointima formation*. **Circulation research**. 2011 Apr 29; 108 (9): 1053-62.
8. **Ban K**, Kim K, Cho CK, Sauvé M, Diamandis EF, Backx PH, Drucker DJ and Husain M; *GLP-1(9-36)-mediated cytoprotection is blocked by exendin(9-39) yet does not require the known GLP-1 receptor*. **Endocrinology**. 2010 Apr; 151(4): 1520-31
9. Sauvé M, **Ban K**, Momen MA, Kabir M, Husain M and Drucker DJ; *Genetic deletion or selective inhibition of Dipeptidyl Peptidase-4 improves cardiovascular outcomes following myocardial infarction in mice*. **Diabetes**. 2010 Apr; 59(4): 1063-73
10. **Ban K**, Hui S, Drucker DJ, and Husain M; *Cardiovascular effects of drugs commonly used for the treatment of diabetes: Do incretin-based therapeutics hold greater promise?* **Journal of the American Society of Hypertension**. 2009 Aug; 3(4): 245-259
11. Noyan-Ashraf MH, Momen MA, **Ban K**, Sadi AM, Zhou YQ, Riazi, AM, Baggio LL, Henkelman RM, Husain M and Drucker DJ; *The GLP-1R agonist Liraglutide activates cytoprotective pathways and improves outcomes following experimental myocardial infarction in mice*. **Diabetes**. 2009 April; 58(4): 975-83
12. **Ban K**, Cooper AJ, Samuel S, Bhatti A, Patel M, Izumo S, Penninger JM, Backx PH, Oudit GY, Tsushima RG; *Phosphatidylinositol 3-Kinase gamma is a critical mediator of myocardial ischemic and pharmacological preconditioning*. **Circulation research**. 2008 Sep 12; 103(6): 643-653
13. **Ban K**, Noyan-Ashraf MH, Hoefler J, Bolz SS, Drucker DJ, Husain M; *Cardioprotective and vasodilatory actions of glucagon-like peptide 1 receptor are mediated through both glucagon-like peptide 1 receptor-dependent and -independent pathways*. **Circulation**. 2008 May 6; 117(18): 2340-2350
14. Son SG, Park DK, **Ban K**, Ka KH, Lee YS and Lee MW; *The Sclerotia Formation of Polyporus umbellatus on the Logs*. **The Korean Journal of Mycology**. 1998; vol 26(3): 396-398
15. **Ban K**, Park DK, Shim JO, Lee YS, and Lee MW; *Cultural Characteristics for Inducing Fruiting-body of Isaria japonica*. **The Korean Journal of Mycology**. 1998; vol 26(3): 380-386

B. Book chapters:

1. **Ban K**, Byun J, Kim S, Koh SW and Yoon YS; *Pluripotent stem cell therapy for cardiac regeneration*. Chapter 13 at “*Cardiovascular Diseases: Nutritional and Therapeutic Interventions*”. **CRC press**. 2013 Apr.

C. Patent

1. Yoon, YS, **Ban, K**, Bao, G, Wile, B; Purification of stem cell derived cardiomyocytes using molecular beacons targeting cardiomyocyte specific mRNA
U.S. Patent Application (serial no. 14/211,430), filed March 2014
2. Yoon, YS, **Ban, K**, Jun, HW; Engineered Stem Cell Therapy for Cardiac Repair
U.S. Patent File number: 14034

2. PEER REVIEWED PRESENTATIONS:

A. Selected Published Abstracts

1. **Ban K**, Wile B, Kim S, Park H-J, Byun J, Cho K-W, Saafir T, Wagner M, Bao G, Yoon YS; Molecular beacon-based purification of ventricular cardiomyocytes from differentiating embryonic stem cells by targeting intracellular mRNA. **Circulation. 2014;130:A17986**
2. **Ban K**, Wile B, Kim S, Park H-J, Byun J, Cho K-W, Saafir T, Wagner M, Bao G, Yoon YS; *Purification of cardiomyocytes from differentiating pluripotent stem cells using molecular beacons targeting cardiomyocyte-specific mRNA. Circulation. 2013; 128: A14396*
3. **Ban K**, Park H-J, Kim S, Cho K-W, Hwang JW, Cha HJ, Andukuri A, Jun H-W, Yoon YS; *Engineered cell therapy with embryonic stem cell-derived cardiomyocytes encapsulated in injectable nanomatrix gel enhanced engraftment and promoted cardiac repair in experimental myocardial infarction. Circulation. 2013; 128: A18111*
4. **Ban K**, Wile B, Kim S, Byun J, Saffir T, Wagner, M, Bao G, and Yoon YS. *Purification of Cardiomyocytes from Differentiating Human Pluripotent Stem Cells Using Molecular Beacons Targeting mRNA of a Cardiomyocyte-specific Gene. Circulation. 2012; 126: A18585*
5. **Ban K**, Wile B, Kim S, Byun J, Saffir T, Wagner, M, Bao G, and Yoon YS. *Generation of Purified Cardiomyocytes from Pluripotent Stem Cells Using Molecular Beacons. Circulation Research. 2012; 111: A154*
6. **Ban K**, Kim S, Byun J, Yoon YS. *Isoproterenol facilitated cardiomyocyte generation from human pluripotent stem cells. Circulation. 2011; 124:A16384*
7. **Ban K**, Kim KH, Cho C, Backx PH, Drucker DJ, Husain M; *The Glucagon Like Peptide-1 (GLP-1) metabolite GLP-1(9-36) protects cardiomyocytes and endothelial cells from myocardial ischemia reperfusion injury via GLP-1 receptor-independent mechanisms. Circulation. 2009; 120: S846*
8. **Ban K**, Hoefler J, Baggio L, Bolz SS, Drucker DJ, Husain M; *Mechanisms underlying cardioprotective effects of glucagon-like peptide-1 in ischemia-reperfusion injury. Circulation. 2007; 116: II 307*
9. **Ban K**, Baggio LL, Drucker D, Husain M; *Role of Glucagon-Like Peptide-1 in myocardial ischemia-reperfusion injury. Circulation. 2006; 114: II 211*
10. **Ban K**, Cooper A, Bhatti A and Tsushima RG; *Role of PI3-kinase isomers in myocardial ischemic preconditioning. Journal of molecular cellular cardiology. 2006; 40 (6); page; 869-870*

B. Selected Presentations as Guest Speaker

1. Platform Presentation; American Heart Association (AHA) scientific sessions (2013). Dallas, USA
2. Platform Presentation; American Heart Association (AHA) scientific sessions (2011). Orlando, USA
3. Platform Presentation; American Heart Association (AHA) scientific sessions (2009). Orlando, USA
4. Platform Presentation; Canadian Cardiovascular Congress (CCC) (2009). Edmonton, Alberta, Canada
5. Platform Presentation; Ontario Hypertension Society (OHS) annual conference (2009). Peterborough,

Ontario, Canada

6. Platform Presentation; American Heart Association (AHA) scientific sessions (2007). Orlando, USA
7. Platform Presentation, Canadian Cardiovascular Congress (CCC) (2007). Montreal, Quebec, Canada