

Ara Koh, Ph.D.

Assistant Professor
Department of Life Sciences, POSTECH
Pohang, Korea

Email: ara.koh@postech.ac.kr

Background

Assistant Professor 2020. 1 ~ 2021. 8	Department of Precision Medicine, Sungkyunkwan University School of Medicine	Microbial Metabolite Signal Transduction lab
Post Doc. 2014. 11 ~ 2019. 12	Wallenberg Laboratory, Sahlgrenska hospital of Gothenburg University, Gothenburg, Sweden	Study of microbiota or microbial metabolites to the host (Advisor: Dr. Fredrik Bäckhed)
Post Doc. 2014. 8 ~ 2014. 10	Department of Life Science, Sogang University, Seoul, South Korea	Study of host-pathogenic bacteria (<i>Vibrio vulnificus</i>) interaction (Advisor: Dr. Kun-Soo Kim)
Post Doc. 2013. 9 ~ 2014. 7	Division of Molecular and Life Science, POSTECH, Pohang, South Korea	Study of Regulation Mechanism of C1-Ten & <i>in vivo</i> Function of C1-Ten (Advisor: Dr. Sung Ho Ryu)
Ph.D. Course 2007. 8 ~ 2013. 8	Division of Molecular and Life Science, POSTECH, Pohang, South Korea	Thesis Title: Role and Molecular Mechanism of C1-Ten in Insulin Signaling. (Advisor: Dr. Sung Ho Ryu)
M.S. Course 2005. 3 ~ 2007. 7	Division of Molecular and Life Science, POSTECH, Pohang, South Korea	Thesis Title: Find out new signaling molecules of insulin signaling by using SH2 domain library (Advisor: Dr. Sung Ho Ryu)
B.S. 2000. 3 ~ 2005. 2	Department of Life Science, Department of Chemistry (<u>Double major</u>), Sogang University, Seoul, South Korea	Graduated Summa Cum Laude

Research Experiences

1. Group of Fredrik Bäckhed (2014.11 – 2019.12), Wallenberg Laboratory, Sahlgrenska hospital of Gothenburg University, Gothenburg, Sweden

1) Post Doc. (Advisor: Prof. Fredrik Backhed, Ph.D.); 1 Publication (first-author), 1 manuscript-preaccepted (first-author), 3 manuscripts in preparation (1 first-author, 2 co-author papers) and 1 Patent.

2. Host-Pathogen interaction Laboratory (2014.8 - 2014.10), Department of Life Science, Sogang University, Seoul, South Korea

1) Post Doc. (Advisor: Prof. Kun-Soo Kim, Ph.D.); 1 Publication (1 co-author paper).

3. Signal Transduction Laboratory (2013.9 - 2014.7), Department of Life Science, POSTECH, Pohang, South Korea

1) Post Doc. (Advisor: Prof. Sung Ho Ryu, Ph.D.); 8 Publications (1 first-author, 7 co-author papers).

4. Signal Transduction Laboratory (2005.3-2013.8), Department of Life Science, POSTECH, Pohang, South Korea

1) Graduate student (Advisor: Prof. Sung Ho Ryu, Ph.D.); 4 Publications (1 first-author, 3 co-author papers) and 1 Patent.

5. Tobias Meyer laboratory (2006.7-2007.1), Department of Chemical and Systems Biology, Stanford University School of Medicine, CA, USA

1) Visiting student (Advisor: Prof. Tobias Meyer, Ph.D.)

5 Selected Publications:

1. **Koh A***, Mannerås-Holm L, Yunn NO, Nilsson PM, Ryu SH, Molinaro A, Perkins R, Smith JG, Bäckhed F. Microbial Imidazole Propionate Affects Responses to Metformin through p38 γ -Dependent Inhibitory AMPK Phosphorylation. *Cell Metab.* 2020 Oct 6; 32 (4): 643-653. ***First and Co-corresponding author.** (IF 27.287, JCR rank 1.71%)
2. **Koh A*** and Backhed F. From association to causality: the role of the gut microbiota and its functional products on host metabolism. *Mol Cell.* 2020 May 21; 78 (4):584-596. ***First and Co-corresponding author.** (IF 17.970, JCR rank 1.86%)
3. Molinaro A*, **Koh A***, Wu H, Schoeler M, Faggi I, Carreras A, Hallén A, Bäckhed F, Caesar R. Hepatic expression of Lipopolysaccharide Binding Protein (Lbp) is induced by the gut microbiota through Myd88 and impairs glucose tolerance in mice independent of obesity. *Mol Metab.* 2020 Apr 16. ***Co-first authors.** (IF 7.422, JCR rank 6.39%)
4. **Koh A**, Molinaro A, Stahlman M, Khan MT, Schmidt C, Manneras-Holm L, Wu H, Carreras A, Jeong H, Olofsson L, Bergh PO, Gerdes V, Hartstra A, Brauw M, Perkins R, Nieuwdorp M, Bergstrom G, Backhed F. Microbially produced imidazole propionate impairs insulin signaling through mTORC1. *Cell.* 2018 Nov; 175 (4): 947-961. (IF 41.584, JCR rank 0.51%)
5. **Koh A**, Vadder DF, Kovatcheva-Datchary P, Bäckhed F. From dietary fiber to host physiology: Short-chain fatty acids as key bacterial metabolites. *Cell.* 2016 Jun; 165 (2): 1332-1345. (IF 41.584, JCR rank 0.51%)