

## Jun Young Hong

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<b>Education and Professional Career</b>	2021-Current	<b>Assistant Professor</b> Department of Systems Biology College of Life Science and Biotechnology Yonsei University
	2018-2021	<b>Postdoctoral Fellow</b> Howard Hughes Medical Institute Department of Immunobiology Yale University School of Medicine Laboratory of Dr. Ruslan Medzhitov
	2015-2018	<b>Postdoctoral Associate</b> Howard Hughes Medical Institute Department of Immunobiology Yale University School of Medicine Laboratory of Dr. Ruslan Medzhitov
	2010-2015	<b>Doctor of Philosophy</b> Department of Molecular and Integrative Physiology University of Michigan Laboratory of Dr. Marc B. Hershenson
	2009-2010	<b>Staff Research Associate</b> Center for Marine natural products and Drug Discovery Seoul National University Laboratory of Dr. Heonjoong Kang
	2007-2009	<b>Master of Science</b> Department of Oceanography (Marine Biotechnology) School of Earth and Environmental Science Seoul National University Laboratory of Dr. Heonjoong Kang
	2001-2007	<b>Bachelor of Science [with honors]</b> Department of Oceanography School of Earth and Environmental Science Seoul National University
	<b>Funding</b>	2018-2021
	2014-2015	<b>Rackham Predoctoral Fellowship</b> University of Michigan Predoctoral Fellowship

2012

**Rackham Graduate Student Research Grant**  
University of Michigan

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**Honors and Awards**

2020	<b>KOLIS Award</b> Korean American Bioscience Forum 2020
2020	<b>KASBP-Daewoong Fellowship Award</b> KASBP Fall Symposium
2013	<b>Rackham Travel Award</b> University of Michigan
2013	<b>Molecular Integrative Physiology Travel Award</b> University of Michigan
2012	<b>Rackham Travel Award</b> University of Michigan
2011	<b>John Bean Fellowship for Academic Excellence</b> Department of Molecular and Integrative Physiology University of Michigan
2006 Fall	<b>Full scholarship for academic distinction</b> Seoul National University
2006 Spring	<b>Full scholarship for academic distinction</b> Seoul National University

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**Publications**

Peer-reviewed Research Articles

1. **Hong JY**, Lim J, Carvalho F, Cho JY, Vaidyanathan B, Yu S, Annicelli C, IP EWK, Medzhitov R, Long-term programming of CD8 T cell immunity by perinatal exposure to glucocorticoids. [Cell 180: 847-861.e15 \(2020\)](#). [Previewed in the issue, [Highlighted in Science](#), [Previewed in Immunity](#)].
2. Han M, Rajput C, **Hong JY**, Lei J, Hinde JL, Wu Q, Bentley JK, Hershenson MB, The innate cytokines IL-25, IL-33 and TSLP cooperate in the induction of ILC2 expansion and mucous metaplasia in rhinovirus-infected immature mice. [J Immunol 199:13081318 \(2017\)](#).
3. Han M\*, **Hong JY\***, Jaipalli S, Rajput C, Lei J, Hinde JL, Chen Q, Hershenson NM, Bentley JK, Hershenson MB, IFN- $\gamma$  blocks development of an asthma phenotype in rhinovirus-infected baby mice by inhibiting ILC2s. [Am J Respir Cell Mol Biol. 56:242251 \(2017\)](#). (\*co-first authors)
4. Han M, Chung Y, **Hong JY**, Rajput C, Lei J, Hinde JL, Chen Q, Weng ST, Bentley JK, Hershenson MB. TLR2-expressing macrophages are required and sufficient for rhinovirus-induced airway inflammation. [J Allergy Clin Immunol 138:1619-1630 \(2016\)](#).
5. Chung Y, **Hong JY**, Lei J, Chen Q, Bentley JK, Hershenson MB. Rhinovirus infection induces IL-13 production from CD11b-positive, M2-polarized exudative macrophages. [Am J Respir Cell Mol Biol. 52:205-16 \(2015\)](#).

6. Bentley JK, Chen Q, Lei J, **Hong JY**, Popova AP, Moore BB, Hershenson MB. Periostin is required for house dust mite-induced airways inflammation and hyperresponsiveness. [J Allergy Clin Immunol 134:1433-42 \(2014\)](#).
7. **Hong JY**, Bentley JK, Chung Y, Lei J, Steenrod JM, Chen Q, Sajjan US, Hershenson MB. Neonatal rhinovirus induces mucous metaplasia and airways hyperresponsiveness via IL-25 and ILC2s. [J Allergy Clin Immunol. 134:429-39 \(2014\)](#) [Editor's choice article].
8. **Hong JY**, Chung Y, Steenrod J, Chen Q, Lei J, Comstock AT, Goldsmith AM, Zhao Y, Bentley JK, Sajjan US, Hershenson MB. IL-4 signaling determines macrophage activation state and response to rhinovirus infection in a mouse model of allergic asthma. [Respir Res 15:63 \(2014\)](#).
9. Chung Y, Saba T, **Hong JY**, Sajjan US, Bentley JK, Hershenson MB. Rhinovirus-induced macrophage cytokine expression does not require endocytosis or replication [Am J Respir Cell Mol Biol 50:974-84 \(2014\)](#).
10. Schneider D, **Hong JY**, Bowman ER, Chung Y, Nagarkar DR, McHenry CL, Goldsmith AM, Bentley JK, Lewis TC, Hershenson MB. Macrophage/epithelial cell CCL2 contributes to rhinovirus-induced hyperresponsiveness and inflammation in a mouse model of allergic airways disease. [Am J Physiol Lung Cell Mol Physiol 304:L162-9 \(2013\)](#).
11. Schneider D, **Hong JY**, Popova AP, Bowman ER, Linn MJ, McLean AM, Zhao Y, Sonstein J, Bentley JK, Weinberg JB, Lukacs NW, Curtis JL, Sajjan US, Hershenson MB. Neonatal rhinovirus infection induces persistent mucous metaplasia and airways hyperresponsiveness. [J Immunol 188:2894-904 \(2012\)](#).
12. Chin J\*, **Hong JY\***, Lee J\*, , Hwang H, Ko H, Choi H, Hahn D, Ko J, Nam S, Tak J, Ham J, Kang H. Selective peroxisome proliferator-activated receptor  $\delta$  isosteric selenium agonists as potent anti-atherogenic agents in vivo. [Bioorg Med Chem Lett 20, 7239-7242 \(2010\)](#). (\*co-first authors)

#### Abstracts

1. **Hong JY**, Vaidyanathan B, Cho JY, Medzhitov R. Developmental programming of longterm immunity of CD8 T-cells by perinatal glucocorticoids. [Cancer Immunol Res. 2019](#).
2. **Hong JY**, Bentley JK, Steenrod J, Sajjan US, Hershenson MB. Neonatal rhinovirus infection is associated with TSLP, IL-25, natural killer T cells and natural helper cells. [Am J Respir Crit Care Med 2013](#).
3. **Hong JY**, Steenrod J, Comstock AT, Zhao Y, Goldsmith AM, Linn MJ, Bentley JK, Sajjan US, Hershenson MB. Rhinovirus infection of ovalbumin-sensitized and – challenged IL-4 receptor knockout mice enhances neutrophilic airway inflammation and macrophage Th1- and Th-17 cytokine expression. [Am J Respir Crit Care Med 2012](#).

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#### **Patents**

1. Kang H, Rho J-R, Hong J-H, Park SB, Shin C-S, Lee J, **Hong JY**, Kim E, Kim J. and Oh, S-M. New compounds having a spiro chiral carbon, process for preparing the same and pharmaceutical composition comprising the same. PCT/KR2009/006357.
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## **Selected Presentation**

### Invited talk

1. **Hong JY**, Medzhitov R. Developmental programming of long-term immunity of CD8 T cells by perinatal stress hormone. Korean American Bioscience forum 2020, December 2020. [Online seminar].
2. **Hong JY**, Medzhitov R. Developmental programming of long-term immunity by perinatal stress hormone. 2020 KASBP Fall eSymposium, October 2020. [Online seminar].
3. **Hong JY**, Medzhitov R. Long-term programming of CD8 T cell immunity by perinatal stress hormone. Department of Microbiology and Immunology, Seoul National University College of Medicine, Seoul, South Korea, April 2020. [Online seminar].
4. **Hong JY**, Medzhitov R. Long-term programming of CD8 T cell immunity by perinatal glucocorticoid. Systems Biology Institute, Yale University, New Haven, CT, USA, March 2020.
5. **Hong JY**, Medzhitov R. Long-term programming of CD8 T cell immunity by perinatal glucocorticoid. Yale Korean Biological Society, Yale University, New Haven, CT, USA, July 2019.
6. **Hong JY**, Hershenson MB. Potential role of early-life rhinovirus infection in the development of asthma. Konyang University, Daejeon, South Korea, July 2017.
7. **Hong JY**, Hershenson MB. Potential role of early-life rhinovirus infection in the development of asthma: IL-25, TSLP and type 2 innate lymphoid cells. Seoul National University, South Korea, February 2016.
8. **Hong JY**, Hershenson MB. Potential role of early-life rhinovirus infection in the development of asthma: IL-25, TSLP and type 2 innate lymphoid cells. Korean Advanced Institute Science and Technology, Daejeon, South Korea, February 2016.

### Poster

1. **Hong JY**, Lim J, Carvalho F, Cho JY, Vaidyanathan B, Yu S, Annicelli C, Medzhitov R. Developmental programming of long-term immunity of CD8 T cells by perinatal glucocorticoid. 5th International Cancer Immunotherapy Conference, Paris, France, September 2019.
2. **Hong JY**, Vaidyanathan B, Cho JY, Medzhitov R. Developmental Programming of Longterm Immunity of CD8 T cells by Perinatal Glucocorticoids. 4th International Cancer Immunotherapy Conference. New York, USA, September 2018.
3. **Hong JY**, Bentley JK, Chung Y, Lei J, Steenrod J, Chen Q, Sajjan US, Hershenson MB. Neonatal rhinovirus infection induces persistent mucous metaplasia and airways hyperresponsiveness via IL-25 and ILC2s. 2014 Keystone symposia on Emerging Cytokine network. Vancouver, Canada, January 2014.
4. **Hong JY**, Bentley JK, Steenrod J, Sajjan US, Hershenson MB. Neonatal rhinovirus infection is associated with TSLP, IL-25, natural killer T cells and natural helper cells. American Thoracic Society 2013 International Conference, Philadelphia, USA, May 2013.
5. **Hong JY**, Bentley JK, Steenrod J, Sajjan US, Hershenson MB. Airways hyperresponsiveness and mucous metaplasia induced by neonatal rhinovirus infection is associated with IL-25 expression and IL-25-responsive natural helper cells. 2013

Keystone symposia on Type 2 Immunity: Initiation, Maintenance, Homeostasis and Pathology, Santa Fe, USA, January 2013.

6. **Hong JY**, Steenrod J, Comstock AT, Zhao Y, Goldsmith AM, Linn MJ, Bentley JK, Sajjan US, Hersenson MB. Rhinovirus infection of ovalbumin-sensitized and – challenged IL-4 receptor knockout mice enhances neutrophilic airway inflammation and macrophage Th1- and Th-17 cytokine expression. American Thoracic Society 2012 International Conference, San Francisco, USA, May 2012.
7. **Hong JY**, Kim E, Kim J, Hwang H, Lee J, Shin S, Won DH, Choi H, Hahn D, Kim YJ, Kang H. A potent Liver X Receptor antagonist from a marine organism represses lipogenic gene expression in mouse liver. 2010 Keystone symposia on Nuclear Receptors: Development, Physiology and Disease, Keystone, USA, March 2010.
8. **Hong JY**, Kim E, Kim J, Hwang H, Sun S, Won DH, Kim YJ, Song S, Choi H, Lee J, Hwang B, Rho J-R, Kang H. A potent Liver X Receptor antagonist from a marine organism represses lipogenic genes expression. International Center for Marine Natural Products and Drug Discovery Symposium, Seoul, South Korea, September 2009.
9. **Hong JY**, Chin J, Lee J, Hwang H, Ham J, Ko H, Yang I, Tak J, Banerjee J, Hahn D, Choi H, Ko J, Kim S, Park H, Nam S-J, Ryu Y-H, Kang H. A novel PPAR- $\delta$  agonist attenuates atherosclerosis in Apoe-/-mice. 2008 Spring International Convention, The Pharmaceutical Society of Korea, May 2008.
10. **Hong JY**, Chin J, Lee J, Hwang H, Ham J, Ko H, Yang I, Tak J, Banerjee J, Ko J, Kang H. Peroxisome Proliferator-Activated Receptor Delta Selective Agonists as Potent AntiAtherogenic Agents In Vivo. International Center for Marine Natural Products and Drug Discovery Symposium, November 2007.

<b>Teaching Experiences</b>	2014	Graduate Student Instructor of Human Physiology 201 (Instructor: Dr. Elizabeth Rust), University of Michigan, Winter 2014.
	2011	Graduate Student Instructor of Human Physiology 201 (Instructor: Dr. Elizabeth Rust), University of Michigan, Fall 2011.
<b>Mentorship</b>	2014-2015	Lab undergraduate student researcher (Mr. Jaipalli, S)
	2011-2013	Lab undergraduate student researcher (Ms. Steenrod, J)
	2011-2012	Lab undergraduate student researcher (Mr. Han, J)
<b>Service</b>	2013-2015	Ad hoc reviewer <i>Journal of Immunology</i> <i>American Journal of Respiratory Critical Care Medicine</i> <i>American Journal of Respiratory Cell and Molecular Biology</i>
	2005	Teaching Mentor Program for North Korean Refugee children, Taihwa Social Welfare Center
<b>Professional Association</b>	2019-Current	KASBP (Korean-American Society in Biotechnology and Pharmaceuticals)
	2011	American Association of Immunologist

