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EDUCATION

Ph.D., Microbiology and Immunology (2015). Department of Comparative Pathobiology, College of Veterinary Medicine, Purdue University, West Lafayette, IN, USA (Advisor: Chang H. Kim)

M.S., Animal Science and Biotechnology (2009). Department of Food and Animal Biotechnology, Seoul National University, Seoul, South Korea (Advisor: Jong-Kyu Ha)

B.S., Animal Science and Biotechnology (2007). Department of Food and Animal Biotechnology, Seoul National University, Seoul, South Korea

POSTDOCTORAL TRAINING

Apr. 2016 – Aug. 2018 **Postdoctoral Associate**, Department of Molecular Virology and Microbiology, Baylor College of Medicine, Houston, TX, (PI: Gretchen Diehl)

Jan. 2016 - Mar. 2016 **Research Associate**, Department of Comparative Pathobiology, College of Veterinary Medicine, Purdue University, West Lafayette, IN, (PI: Chang Kim)

ACADEMIC APPOINTMENTS

Sep. 2018 - Present **Assistant Professor**, College of Natural Resources & Life Science, Department of Animal Science, Pusan National University

Aug. 2010 - Dec. 2015: **Graduate Research Assistant**, Department of comparative Pathobiology, Purdue University, West Lafayette, IN, USA (PI: Chang H. Kim)

Mar. 2009 - July. 2010: **Research Associate**, Department of Food and Animal Biotechnology, Seoul National University, Seoul, South Korea (PI: Jong-Kyu Ha)

Mar. 2007 - Feb. 2009: **Graduate Research Assistant**, Department of Food and Animal Biotechnology, Seoul National University, Seoul, South Korea (PI: Jong-Kyu Ha)

Mar. 2008 - Feb. 2009: **Teaching Assistant**, Ruminant Nutrition Lecture, Animal science & Biotechnology, Seoul National University

A. Personal Statement

My research focus is to define how the immune system is regulated by the microbiota and microbial metabolites, identifying potential dietary immune-modulators or targets in host and microbes to prevent or cure immune-mediated diseases in animals and human. During my training in microbiology and immunology, I have made seminal discoveries on the regulation of intestinal immune responses by gut metabolites and microbiota required for proper immune function. I joined Pusan National University (PNU) in 2018 as an assistant professor in the department of Animal Science and opened the laboratory of Animal Immunology (AI). Our lab focus on understanding regulation of mucosal immune system by extrinsic factors including diet, stress, and microbiota. We utilize mouse and large animal models to develop novel strategy to prevent infectious diseases and immune disorders in human and domestic animals. Currently, our lab has been working on six major research topics as followed:

- 1) Understanding the regulatory mechanisms of intestinal immunity by the gut microbiota
- 2) Immune network between gut and organs (gut-organ axis) in development of immune disorders
- 3) Regulatory mechanism of salt sensitivity in hypertension by microbiome and gut immunity
- 4) Changes of immune responses in dairy cows in response to heat stress
- 5) Development of immune-modulator to improve gut health in monogastric animals with biomimetic techniques
- 6) Establishment of domestic animal-oriented organoid system

I started my research career in the department of Animal Biotechnology at Seoul National University (SNU) in South Korea. Within the MS program, I received a national government grant from National Research Foundation of Korea. With support of this grant, I studied changes of immunophysiological responses and impact of functional feed additive on these responses of calves exposed to immune or stress challenges with establishment of immune- and stress-challenge animal models. I discovered novel biomarkers for infection and stress¹ and potential dietary immune modulators for stressed animals².

This research experience led me to pursue my Ph.D. in Microbiology and Immunology at Purdue University to expand my knowledge of mechanistic of regulation of intestinal immune responses in the context of inflammatory diseases. Under the mentorship of Dr. Chang H. Kim Ph.D., I studied regulation of intestinal immunity by gut metabolites. I have identified a novel function for retinoic acid in regulation of migration of innate lymphoid cells (ILCs)⁴. Additionally, I discovered that the gut microbial metabolites, short-chain fatty acids (SCFAs) regulate anti-bacterial immunity via the SCFA receptor³ and metabolically regulate IgA⁺ plasma cell differentiation in the context of pathogen infection⁵. I further reported the impact of SCFAs and their receptors on intestinal tumorigenesis⁶. These studies were published in *Immunity*, *Gastroenterology*, *Cell Host & Microbes*, and *European Journal of Immunology*. In addition, I developed novel porcine model of soy-induced enteritis mimicking food protein-induced enterocolitis syndrome (FPIES) that mainly affects young children⁹.

My studies on the regulation of intestinal inflammation by gut metabolites led me to look for a postdoctoral position where I could ask fundamental questions of how microbes and their metabolites regulate the immune system in the context of inflammatory disease. I joined Baylor College of Medicine (BCM) in 2016 as a postdoctoral associate in the department of Molecular Virology and Microbiology (MVM) and Alkek Center for Metagenomics and Microbiome Research (CMMR) in the laboratory of Dr. Gretchen Diehl. The focus of research in the Diehl lab is at the interface between the host immune system and microbial world. Since joining the lab, I have utilized in vivo animal models of intestinal disease and novel mouse tools that allow for selective manipulation of intestinal antigen presenting cells (APCs) alongside in vitro assays to understand how the microbiota impacts normal functioning of the immune system. Using these experimental tools, I have demonstrated that an intact microbiota instructs intestinal APCs to limit intestinal inflammation against intestinal pathogens and support anti-inflammatory responses against food antigens and the microbiota itself⁷. These works were published in *Immunity* and *Gut Microbes*^{7,8}. Within my postdoctoral research, I received the Association of American Immunologists (AAI) Postdoctoral Immunology Career Fellowship. With support of this fellowship, I also have been working on identification of mechanism by which individual member of gut microbiota regulate host tolerance against enteric pathogens. In this work, I seek to identify specific members of the microbiota or metabolite that can support anti-inflammatory or homeostatic functions of APC to induce antimicrobial immunity and limit inflammation in the context of inflammatory diseases driven by high fat diet or intestinal pathogen infection. In line with this research, I also further expanding my research to cancer regulation by harnessing the microbiota. Through this work, I hope to define novel mechanisms of regulation of intestinal inflammation through microbiota-derived signals including specific microbes or metabolites. This project will give us the tools to develop innovative strategies to modulate the immune system to cure or prevent inflammatory diseases driven by pathogen infection or stress challenge.

1. **Myung H. Kim**, C. H. Yun, J. Y. Ko, J. S. Kang, S. J. Kang, W. S. Lee, J. H. Kim and J. K. Ha. Change of immunophysiological characteristics in neonatal calves experimentally challenged with mixture of bacteria and virus. *Journal of Dairy Science*, 2009, 92:5534–5543.
2. **Myung H. Kim**, C.H. Yun, C.H. Lee, J.K. Ha. The effects of fermented soybean meal on growth performance, diarrhea, stress-related serum proteins, and immune cells in Holstein calves after weaning. *Journal of Dairy Science*, 2012, 95: 5203–5212.
3. **Myung H. Kim**, Seung G. Kang, Jeong H. Park, Masashi Yanagisawa, and Chang H. Kim. Short chain fatty acids activate GPR41 and GPR43 on intestinal epithelial cells to promote inflammatory responses in mice. *Gastroenterology*, 2013, 145:396-406.
4. **Myung H. Kim**, Elizabeth J. Taparowsky, and Chang H. Kim. Retinoic acid differentially regulates the migration of innate lymphoid cell subsets to the gut. *Immunity*, 2015, July, 43, 1–13.
5. **Myung H. Kim**, Yaqing Qie, Jeongho Park, and Chang H. Kim. Gut microbial metabolites fuel host antibody responses. *Cell Host and Microbe*, 2016, Aug, 20, 1-13.
6. **Myung H. Kim**, Leon Frisen, Jeongho Park, and Chang H. Kim. The gut microbial metabolites, short-chain fatty acids restrain tissue bacterial load, chronic inflammation, and associated cancer in colon of mice. *European Journal of Immunology*. 2018, July, 48(7): 1235-1247.
7. **Myung H. Kim**, Carolina Galan, Andrea A. Hill, Hannah Felhner-Peach, Deborah Schady, Matthew Bettini, Randy S. Longman, Dan R Littman, Gretchen E. Diehl. Critical role for the microbiota in CX3CR1+ intestinal mononuclear phagocytes regulation of intestinal T cell responses. *Immunity*. 2018, July 17, 49: 1-3.
8. **Myung H. Kim**, Andrea A. Hill, Wan-Jung Wu, Gretchen E. Diehl. Intestinal Microbes direct CX₃CR1⁺ cells to balance intestinal immunity. *Gut Microbes*. 2019. Jan 06.
9. Seika Hashimoto-Hill*, **Myunghoo Kim***, Leon Friesen, Kolapo M. Ajuwon, Eliot Herman, Allan Schinckel, and Chang H. Kim. Differential food protein-induced inflammatory responses in swine lines selected for reactivity to soy antigens. *Allergy*. 2019. Aug;72(8)

B. Honors

- AAAP, Excellent Poster Presentation Award at animal health
- 2009 7th Korea-Japan-China Joint Ruminant Symposium, Joint symposium Best Presentation Award
- 2014 AAI, USA, Trainee Poster Award
- 2015 Graduate Student Research Award, Purdue College of Veterinary Medicine
- 2017 Travel award, Federation of American Societies for Experimental Biology, Gastrointestinal tract
- 2017 AAI Postdoctoral Immunology Career Fellowship
- 2018 R Retreat Poster Award
- 2018 AAI Poster Award
- 2019 The Korean Association of Immunologists, Young Investigator Award
- 2021 Best Paper Award, College of Natural Resources & Life Science, Pusan National University
College of Natural Resources & Life Science,

C. Other Experience and Professional Memberships

2013- Present	Member, American Association of Immunologists
2015- Present	Reviewer, Animal Bioscience
2015- Present	Reviewer, Journal of Immunology
2018- Present	Reviewer, Canadian Journal of Animal Science
2018- Present	Reviewer, Scientific Reports
2018- Present	Reviewer, Immune Network
2019- Present	Reviewer, Journal of Veterinary Science
2019- Present	Reviewer, Metabolites
2019- Present	Reviewer, Nutrients
2019- Present	Reviewer, Frontiers in immunology
2020- Present	Invited Editor, Animals
2021- 2022	Guest Editor, health and microbiome for domestic animals

D. Research Support

Research Support

- 2019-2022, Research grant from PNU startup-10 (Establishment of bioactive material core lab)
- 2021-2023, Research grant from KNU10 (Microbiome in neutrophilic and eosinophilic asthma)
- 2019-2022, Basic Research grant from NRF (Regulatory mechanism of gut microbiome for intestinal inflammation)
- 2021-2024, Basic Research Laboratory (BRL) from NRF (Lab. for hypertension immune regulation)
- 2020-2024, Research grant from RDA (Immunological changes in dairy cow by heat stress)
- 2021-2023, Research grant from RDA (Development of immune-modulator to improve gut health in animals)
- 2019-2023, Research grant from NNIBR (Development of microalgae based immune-modulator for chicken)

Completed Research Support

- 2008-2010, Development of dietary immune modulator to improve the health status of weaned calves, Korea Science and Engineering Foundation (KOSEF) (R01-2008-000-10854-0) (Kim, PI; Ha, Mentor)
- 2009, Hans' Scholarship Foundation for Animal Science Research (Kim, PI; Diehl, Mentor)
- 2009-2010, Development of dietary stress modulator for weaned calves, National Agricultural Cooperative Federation (Kim, PI; Ha, Mentor)
- 2017-2018, Postdoctoral Immunology Career Fellowship (AAI)
- 2018-2019, Pusan National University Start Seed Funds
- 2019-2021, Research grant from RDA (Zinc and copper for gut immunity in pigs)

LIST OF PUBLICATIONS: Peer-Reviewed Journal Articles (SCI(E))

- [1] Wan-Jung H. Wu, Myunghoo Kim, Lin-Chun Chang, Adrien Assie, Fatima B. Saldana-Morales, Daniel F. Zegarra-Ruiz, Kendra Norwood, Buck S. Samuel, and Gretchen E. Diehl. Interleukin-1 β secretion induced by mucosa-associated gut commensal bacteria promotes intestinal barrier repair, *Gut microbes*. 2022. Jan.
- [2] Han Jin Oh^{1*}, Myung Hoo Kim^{*}, Ji Hwan Lee, Yong Ju Kim, Jae Woo An, Se Yeon Chang, Young Bin Go, Dong Cheol Song, Hyun Ah Cho, Min Seok Jo, Dae Young Kim, Min Ji Kim, Sung Bo Cho, Hyeun Bum Kim and Jin Ho Cho, Effects of different inorganic:organic zinc ratios or combination of low crude protein diet in weaned piglet diets, *Journal of Animal Science Technology*. 2022. Jan. (*Authors contributed equally).
- [3] Han Jin Oh^{*}, Myung Hoo Kim^{*}, Min Ho Song, Ji Hwan Lee, Yong Ju Kim, Se Yeon Chang, JaeWoo An, Yo. Effects of Replacing Medical Zinc Oxide with Different Ratios of Inorganic: Organic Zinc or Reducing Crude Protein Diet with Mixed Feed Additives in Weaned Piglet Diets, *Animals*. 2021. Nov. (*Authors contributed equally).
- [4] Ji Young Jung, Sang-Soo Han, Z-Hun Kim, Myung Hoo Kim, Hye Kyeong Kang, Hyun Mi Jin, and Mi Hwa Lee In-Vitro Characterization of Growth Inhibition against the Gut Pathogen of Potentially Probiotic Lactic Acid Bacteria Strains Isolated from Fermented Products, *Microorganisms*, 2021, Oct
- [5] Daniel F. Zegarra-Ruiz, Dasom V. Kim, Kendra Norwood, Myunghoo Kim, Wan-Jung H. Wu, Gatima B. Saldana-Morales, Andrea A. Hill, Whubhabrata Majumdar, Stephanie Orozco, Rickesha Bell, June L. Round, Randy S. Longman, Takeshi Egawa, Matthew L Bettini, and Gretchen E. Diehl. Thymic development of gut microbiota-specific T cells. *Nature*, 2021. May.
- [6] Da Som Park, Bon-Hee Gu, Yei Ju Park, Sang Seok Joo, Sang-Suk Lee, Seon-Ho Kim, Eun Tae Kim, Dong Hyeon Kim, Sung Sill Lee, Shin Ja Lee, Byeong-Woo Kim, Myunghoo Kim. Dynamic changes in blood immune cells composition and function in Holstein and Jersey steers in response to heat stress. *Cell Stress and Chaperones*. 2021, April 8.
- [7] Han-Jin Oh, Yei-Ju Park, Jae Hyoung Cho, Min-Ho Song, Bon-Hee Gu, Won Yun, Ji-Hwan Lee, Ji-Seon An, Yong-Ju Kim, Jun-Soeng Lee, Sheena Kim, Hyeri Kim, Eun Sol Kim, Byoung-Kon Lee, Byeong-Woo Kim, Hyeun Bum Kim, Jin-Ho Cho, and Myung-Hoo Kim. Changes in diarrhea score, nutrient digestibility, zinc utilization, intestinal immune profiles, and fecal microbiome in weaned piglets by different forms of zinc. *Animals*. 2021. 11, 1356
- [8] Eun Tae Kim, Sang Jin Lee, Tae Yong Kim, Hyo Gun Lee, Rahman Md Atikur, Bon-Hee Gu, Dong Hyeon Kim, Beom Young Park, Jun Kyu Son, Myunghoo Kim. Dynamics changes in fecal microbial communities of neonatal dairy calves by ageing and diarrhea. *Animals*, 2021. 11, 1113.
- [9] Sang Seok Joo, Sang Jin Lee, Da Som Park, Dong Hyeon Kim, Bon-Hee Gu, Yei Ju Park, Chae Yun Rim, Myunghoo Kim^{*} and Eun Tae Kim^{*}. Changes of blood metabolites and immune cells in Holstein and Jersey dairy cows by heat stress. *Animals*, 2021. 11, 974. (*Co-correspondence).
- [10] Bon-Hee Gu, Myunghoo Kim^{*}, and Cheol-Heui Yun^{*}. Regulation of gastrointestinal immunity by metabolites. *Nutrients*, 2021. (*Co-correspondence).
- [11] Eun Tae Kim^{*}, Sang Seok Joo, Dong Hyeon Kim, Bon-Hee Gu, Da Som Park, Rahman Md Atikur, Jun Kyu Son, Beom Young Park, Sang Bum Kim, Tai-Young Hur and Myunghoo Kim. Common and differential dynamics of the function of peripheral blood mononuclear cells between Holstein and Jersey cows in heat-stress environment. *Animals*, 2021. 11(1), 19
- [12] Qingyang, Myung H. Kim, Leon Frisen, and Change H. Kim. BATF regulates innate lymphoid cell hematopoiesis and homeostasis. *Science Immunology*, 2020. 04. Dec.
- [13] Eun Tae Kim, Hyo Gun Lee, Dong Hyeon Kim, Jun Kyu Son, Byeong-Woo Kim, Sang Seok Joo, Da Som Park, Yei Ju Park, Se Young Lee and Myung Hoo Kim. Hydrolyzed yeast supplementation in calf starter promotes innate immune responses in Holstein calves under weaning stress condition. *Animals*, 2020. 10, 1468.
- [14] Seung Ju Park, Minyu Piao, Hyunjin Kim, Hyeok Joong Kang, Dilla Mareistia Fassah, Da Jin Sol Jung, Sang Yeob Kim, Sang Weon Na, Myunghoo Kim, Myunggi Baik. Effects of dehorning and lidocaine-plus-flunixin treatment on indicators of stress and acute inflammation, behaviors, and their association in Korean cattle bull calves. *Livestock Science*, 2020, 104198.
- [15] Dong-Hyeon Kim^{*}, Myung-Hoo Kim^{*}, Sang-Bum Kim, Jun-Kyu Son, Ji-Hwan Lee, Sang-Seok Joo, Bon-Hee Gu, TanSol Park, Beom-Young Park, Eun-Tae Kim. Differential dynamics of the Jersey ruminal microbiome in the heat stress environment. *Animals*, 2020. 10, 1127 (*Authors contributed equally).
- [16] Saichit Khummuang, Hyo Gun Lee, Sang Seok Joo, Jeong-Woong Park, Jae-Young Choi, Jin Hyeog Oh, Kyoung Hwan Kim, Hyun-Hee Youn, Myunghoo Kim^{*}, and Byung-Wook Cho^{*}. Comparison of immunophysiological responses of Jeju and Thoroughbred horses after exercise. *Asian-Australasian Journal of Animal Science*, 2020. March, 33(3):424-435 (*Co-correspondence).
- [17] Hyo Gun Lee, Saichit Khummuang, Hyun-Hee Youn, Jeong-Woong Park, Jae-Young Choi, Teak-Soon Shin, Seong-Keun Cho, Byeong-Woo Kim, Jakyem Seo, Myunghoo Kim, Tae Sub Park, and Byung-Wook Cho. The effect of heat stress on frame switch splicing of X-box binding protein 1 gene in horse. *Asian-Australasian Journal of*

Animal Science. 2019. Aug;32(8):1095-1103.

[18] Seika Hashimoto-Hill*, Myunghoo Kim*, Leon Friesen, Kolapo M. Ajuwon, Eliot Herman, Allan Schinckel, and Chang H. Kim. Differential food protein-induced inflammatory responses in swine lines selected for reactivity to soy antigens. *Allergy*. 2019. Aug;72(8):1566-1569. (*Authors contributed equally).

[19] Myung H. Kim, Bon-hee Gu, Matthew C Madison, Hyo-won Song, Kendra Norwood, Andrea A Hill, David Corry, Farrah Kheradmand, Gretchen Diehl. Cigarette Smoke Induces Intestinal Inflammation via a Th17 cell-Neutrophil Axis. *Frontiers in Immunology*. 2019. Jan. 10(75).

[20] Myung H. Kim, Andrea A. Hill, Wan-Jung Wu, Gretchen E. Diehl. Intestinal Microbes direct CX₃CR1⁺ cells to balance intestinal immunity. *Gut Microbes*. 2019. Jan 06. Vol10(4). 540-546.

[21] Myung H. Kim, Andrea A. Hill, Carolina Galan, Wan-jung Wu, Hyo-won Song, Hannah Felhner-Peach, Deborah Schady, Matthew Bettini, Randy S. Longman, Dan R Littman, Gretchen E. Diehl. Critical role for the microbiota in CX₃CR1⁺ intestinal mononuclear phagocyte regulation of intestinal T cell responses. *Immunity*. 2018, July 17, 49(1): 151-163.

[22] Myung H. Kim, Leon Frisen, Jeongho Park, and Chang H. Kim. Microbial metabolites, short-chain fatty acids restrain tissue bacterial load, chronic inflammation, and associated cancer in the colon of mice. *European Journal of Immunology*. 2018, July, 48(7): 1235-1247.

[23] You R, Cho SN, Lu W, Tung HY, Hill AA, Myung H. Kim, Yuan X, Casal RF, Burt BM, Perusich S, Hong MJ, Liu J, Song L, Demayo FJ, Diehl GE, Corry DB, Kheradmand F. IL-17A regulates tumor latency and metastasis in Lung Adeno and Squamous SQ.2b and AD.1 Cancer. *Cancer Immunology Research*. 2018, June;6(6):645-657.

[24] M. J. Hong, B. H. Gu, M. Madison, Myung H. Kim, C. Landers, X. Yuan, R. You, A. A. MacHado, B. E. Gilbert, P. Soroosh, M. Elloso, L. Song, M. Chen, D. B. Corry, G. Diehl and F. Kheradmand. Protective role of $\gamma\delta$ T Cells in Cigarette Smoke and Influenza Infection. *Mucosal Immunology*. 2018, May 11(3):894-908.

[25] Hyesun Hyun, Seika Hashimoto-Hill, Myung H. Kim, Michael D. Tsifansky, Chang H. Kim, Yoon Yeo., Succinylated chitosan derivative has local protective effects on intestinal inflammation. *ACS Biomaterials Science & Engineering*, 2017, June, 5.3(8):1853-1860

[26] S. Hashimoto Hill, L. Frisen, Myung H. Kim, and Chang H. Kim. Contraction of intestinal effector T cells by retinoic acid-induced purinergic receptor P2X7. *Mucosal Immunology*, 2017, July. 10(4): 912-923

[27] Myung H. Kim and Chang H Kim. Regulation of humoral immunity by gut microbial products. *Gut microbes*, 2017. Feb. 28:1-8.

[28] Viladomiu, M, Kivolowitz, C, Abdulhamid, A, Dogan, B, Victorio, D, Castellanos, JG, Woo, V, Teng, F, Tran, NL, Sczesnak, A, Chai, C, Diehl, GE, Myung H. Kim, Ajami, N, Petrosino, J, Zhou, XK, Schwartzman, S, Mandl, L, Abramowitz, M, Jacob, V, Bosworth, B, Steinlauf, A, Scherl, EJ, Wu, HJ, Simpson, KW, Longman, RS. IgA-coated E. coli enriched in Crohn's disease spondyloarthritis promotes Th17-dependen inflammation. *Science Translational Medicine*, 2017, Feb. 8, 9(376)

[29] Chang H. Kim, Seika Hashimoto Hill, and Myung H. Kim. Migration and tissue tropism of innate lymphoid cells. *Trends in Immunology*, 2016, Jan. 37(1):68-79.

[30] Myung H. Kim, Yaqing Qie, Jeongho Park, and Chang H. Kim. Gut microbial metabolites fuel host antibody responses. *Cell Host and Microbe*, 2016, Aug, 20, 1-13.

[31] Myung H. Kim, and Chang H. Kim. Colonization and effector functions of innate lymphoid cells in mucosal tissues. *Microbes and Infection*, 2016, June. 27. 18(10):604-614

[32] Myung H. Kim, Elizabeth J. Taparowsky, and Chang H. Kim. Retinoic acid differentially regulates the migration of innate lymphoid cell subsets to the gut. *Immunity*, 2015, July, 43(1): 107-119.

[33] Shankar Thangamani*, Myung H. Kim*, Youngmin Son, Xinxin Huang, Heejoo Kim, Jee H. Lee, Jungyoon Cho, Benjamin Ulrich, Hal E. Broxmeyer, and Chang H. Kim. Progesterone directly up-regulates vitamin D receptor gene expression for efficient regulation of T cells by calcitriol, *Cutting Edge (JI)*, 2015, 194(3), Feb, 883-886 (*Authors contributed equally).

[34] Park J, Myung H. Kim, Kang SG, Jannasch AH, Cooper B, Patterson J, Kim CH. Short-chain fatty acids induce both effector and regulatory T cells by suppression of histone deacetylases and regulation of the mTOR-S6K pathway. *Mucosal Immunology*, 2015, Jan. doi: 10.1038/mi.2014.44. 8(1):80-93

[35] Chang H. Kim, Jeongho Park, and Myung H. Kim. Gut Microbiota-Derived Short-Chain Fatty Acids, T Cells, and Inflammation. *Immune Network*, 2014, Dec; 14(6): 277-288.

[36] Rukhsana Jabeen, Ritabrata Goswami, Olufolakemi Awe, Aishwarya Kulkarni, Evelyn T. Nguyen, Andrea Attenasio, Daniel Walsh, Matthew R. Olson, Myung H. Kim, Robert S. Tepper, Jie Sun, Chang H. Kim, Elizabeth J.

- Taparowsky, Baohua Zhou, and Mark H. Kaplan. Th9 cell development requires a BATF-regulated transcriptional network. *Journal of Clinical Investigation*, 2013, doi:10.1172/JCI69489.
- [37] Myung H. Kim, Seung G. Kang, Jeong H. Park, Masashi Yanagisawa, and Chang H. Kim. Short chain fatty acids activate GPR41 and GPR43 on intestinal epithelial cells to promote inflammatory responses in mice. *Gastroenterology*, 2013, 145(2): 396-406.
- [38] Chuanwu Wang, Shankar Thangamani, Myung H. Kim, Bon-Hee Gu, Jee H. Lee, Elizabeth J. Taparowsky, and Chang H. Kim. BATF is required for normal expression of gut-homing receptors by T helper cells in response to retinoic acid. *Journal of Experimental Medicine*, 2013, Vol. 210(3):475-89.
- [39] Jinsam Chang, Shankar Thangamani, Myung H. Kim, Benjamin Ulrich, Sidney M. Morris Jr. and Chang H. Kim. Retinoic acid promotes the development of Arg1-expressing dendritic cells for the regulation of T-cell differentiation. *European Journal of Immunology*, 2013, 43(4): 967-978.
- [40] J. K. Seo, Myung H. Kim, J. Y. Yang, H. J. Kim, C. H. Lee, K. H. Kim and Jong K. Ha. Effects of Synchronicity of Carbohydrate and Protein Degradation on Rumen Fermentation Characteristics and Microbial Protein Synthesis. *Asian-Australasian Journal of Animal Science*, 2013, Vol. 26, No. 3:358-365.
- [41] Myung H. Kim, C.H. Yun, C.H. Lee, J.K. Ha. The effects of fermented soybean meal on growth performance, diarrhea, stress-related serum proteins, and immune cells in Holstein calves after weaning. *Journal of Dairy Science*, 2012, 95: 5203–5212.
- [42] In Hyuk Kwon, Myung H. Kim, Cheol-Heui Yun, Jong Yeol Go, Chan Ho Lee, Hyun June Lee, Wisut Phippek, Jong K. Ha. Effects of Fermented Soybean Meal on Immune Response of Weaned Calves with Experimentally Induced Lipopolysaccharide Challenge. *Asian-Australasian Journal of Animal Science*, 2011, Vol. 24, No. 7:957-964.
- [43] Santi Devi Upadhaya, Liu Yang, Ja Kyeom Seo, Myung H. Kim, Chang-kyu Lee, Chan Ho Lee, Jong K. Ha. Effect of Feed Types on Ochratoxin A Disappearance in Goat Rumen Fluid. *Asian-Australasian Journal of Animal Science*, 2011, Vol. 24, No. 2: 198-205.
- [44] Myung H. Kim, C. H. Yun, K. L. Kim, J. Y. Ko, J. Y. Song and Jong K. Ha. Changes of immunoglobulins and lymphocyte subpopulations in Holstein calves challenged with *Escherichia coli* lipopolysaccharide. *Asian-Australasian Journal of Animal Science*, 2011, Vol. 24, No. 5: 696-706.
- [45] Myung H. Kim, J. K. Seo. C. H. Yun, S. J. Kang, J. Y. Ko and J. K. Ha. Effects of hydrolyzed yeast supplementation in calf starter on the immune response of neonatal calves experimentally-challenged with microbes. *Animal*, 2011, 5:6, 953–960.
- [46] Myung H. Kim, Ji-Young Yang, Santi Devi Upadhaya, Hyun-Jun Lee, Cheol-Heui Yun, Jong K. Ha. The stress of weaning influences serum concentrations of acute-phase proteins, iron-binding proteins, inflammatory cytokines, cortisol, and leukocyte subsets in Holstein calves. *Journal of Veterinary Science*, 2011, 12(2), 151-157.
- [47] Ja Kyeom Seo, Seon-Woo Kim, Myung H. Kim, Santi D. Upadhaya, Dong Keun Kam, Jong K. Ha. Direct-fed Microbials for Ruminant Animals. *Asian-Australasian Journal of Animal Science*, 2010, Vol. 23, No. 12: 1657-1667.
- [48] Myung H. Kim, K. J. Jo, H. S. Kim and J. K. Ha. Effects of fermented SBM on growth performance, diarrhea incidence and immune-response of neonatal calves. *Animal Science Journal*, 2010, 81, 475–481.
- [49] Myung H. Kim, C. H. Yun. J. Y. Ko, J. S. Kang, S. J. Kang, W. S. Lee, J. H. Kim and J. K. Ha. Change of immunophysiological characteristics in neonatal calves experimentally challenged with mixture of bacteria and virus. *Journal of Dairy Science*, 2009, 92(11):5534-5543

LIST OF PUBLICATIONS (Peer-Reviewed Journal Articles (KCOI))

- [1] Effects of variation in the number of developmental stage of donor embryos and ovulation status of the surrogate mother on the efficiency of pig somatic cell cloning. 류재규, 박미령, 허창기, 심보웅, 김명후 서자겸, 김병우, 신태순, 조병욱, 조성근. *한국생명공학회지*, 2020. 09.
- [2] 초기 육계 사료내 토착미세조류 (*Parachlorella* sp.) 첨가에 따른 성장 및 면역반응 변화. 안수현*, 주상석*, 이효건, 김지훈, 이창수, 김명후, 공창수. *한국가금학회지*, 2020. 제 47(1)49-59.
- [3] 고온 스트레스에 따른 홀스타인종 젖소의 반추위내 미생물 균총 변화. 김동현*, 김명후*, 김태용, 하승민, 허태영, 손준규, 이지환, 김상범, 김언태 *, *Journal of the Korean Society of Grassland and Forage Science*, 2019. 39(4)227-234. (*Authors contributed equally).
- [4] Contribution analysis of carcass traits and seasonal auction price for Hanwoo steers. Tae Hun Kang,

Seong-Keun Cho, Jakyeom Seo, Myunghoo Kim, Byeong-Woo Kim^{*}. 2019. Korean Journal of Agricultural Science. September, 46(3):461-469.

Book Chapters

[1] **Myung H. Kim** and Kim CH. Short Chain Fatty Acids in Regulation of the Immune System and Tissue Inflammation in the Intestine. Ed. Cong-Jun Li. In Butyrate: Food Sources, Functions and Health Benefits. Nova Science Publishers, 2014.