

Curriculum Vitae
(Last updated : 09/08/2023)

PERSONAL DATA

Do-Hyun Kim, Ph.D.

Staff Scientist

Department of Pathology & Immunology

Division of Immunobiology

BJC Institute of Health

Washington University School of Medicine

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EDUCATION

M.S. Ph.D. integrated course | 02/2018

Department of Life Sciences, College of Natural Sciences, Hanyang University, Seoul, Korea

(Advisor : Prof. Je-Min Choi)

B.S. | 08/2010

Department of Life Sciences, College of Natural Sciences, Hanyang University, Seoul, Korea

WORK & RESEARCH EXPERIENCE

Staff Scientist | 08/2023 - Present

Department of Pathology & Immunology,

Division of Immunobiology, Washington University School of Medicine

(Principal Investigator : Prof. Steven J. Van Dyken)

Post-doctoral Research Associate | 06/2019 – 08/2023

Department of Pathology & Immunology,

Division of Immunobiology, Washington University School of Medicine

(Principal Investigator : Prof. Steven J. Van Dyken)

Post-doctoral fellow | 03/2018 – 05/2019

Department of Life Sciences, College of Natural Sciences, Hanyang University, Seoul, Korea

(Principal Investigator : Prof. Je-Min Choi)

Post-graduate fellow | 06/2011 – 09/2011, 05/2012 – 09/2012

Department of Pulmonary Critical Care and Medicine, Yale University, USA

(Advisor : Prof. Min-Jong Kang)

Exchange Student | 03/2009 – 02/2010
Department of Biomedicine, Waseda University, Japan

Student internship | 06/2008 – 08/2008
School of Medicine, Seoul National University, Korea
(Advisor : Prof. Eun-Young Choi)

FIRST AUTHOR PUBLICATIONS (IF: JCR 2023 based)

1. **Kim DH**, Wang Y, Jung H, Field RL, Zhang X, Liu TC, Ma C, Fraser JS, Brestoff JR, Van Dyken SJ. A type 2 immune circuit in the stomach controls mammalian adaptation to dietary chitin. *Science*. 2023 Sep 8;381(6662):1092-1098. DOI: 10.1126/science.add5649 (IF: 56.9)
2. Jung H, **Kim DH**, Wang Y, Van Dyken SJ. Finding a Niche: Tissue Immunity and Innate Lymphoid Cells. *Adv Exp Med Biol*. 2022;1365:57-73. doi: 10.1007/978-981-16-8387-9_5. (**Co-first, Book chapter**)
3. **Kim DH**, Van Dyken SJ. ILC2s in High Definition: Decoding the Logic of Tissue-Based Immunity. *Trends Immunol*. 2020 Jan;41(1):7-16. doi: 10.1016/j.it.2019.11.003. (**Review article**) (IF: 16.8)
4. **Kim DH**, Park HJ, Park HS, Lee JU, Ko C, Gye MC, Choi JM. Estrogen receptor α in T cells suppresses follicular helper T cell responses and prevents autoimmunity. *Exp Mol Med*. 2019 Apr 15;51(4):1-9. doi: 10.1038/s12276-019-0237-z. (**Co-first**) (IF: 12.8)
5. **Kim DH**, Choi JM. Chitinase 3-like-1, a novel regulator of Th1/CTL responses, as a therapeutic target for increasing anti-tumor immunity. *BMB Rep*. 2018 May;51(5):207-208. doi: 10.5483/bmbrep.2018.51.5.094. PubMed PMID: 29699605. (**Review article**) (IF: 3.8)
6. **Kim DH**, Park HJ, Lim S, Koo JH, Lee HG, Choi JO, Oh JH, Ha SJ, Kang MJ, Lee CM, Lee CG, Elias JA, Choi JM. Regulation of chitinase-3-like-1 in T cell elicits Th1 and cytotoxic responses to inhibit lung metastasis. *Nat Commun*. 2018 Feb 5;9(1):503. doi: 10.1038/s41467-017-02731-6. (IF: 16.6)
7. **Kim DH**, Sohn JH, Park HJ, Lee JH, Park JW, Choi JM. CpG Oligodeoxynucleotide Inhibits Cockroach-Induced Asthma via Induction of IFN- γ^+ Th1 Cells or Foxp3 $^+$ Regulatory T Cells in the Lung. *Allergy Asthma Immunol Res*. 2016 May;8(3):264-75. doi: 10.4168/aair.2016.8.3.264. (IF: 4.4)
8. **Kim DH**, Lee YG, Park HJ, Lee JA, Kim HJ, Hwang JK, Choi JM. Piceatannol inhibits effector T cell functions by suppressing TcR signaling. *Int Immunopharmacol*. 2015 Apr;25(2):285-92. doi: 10.1016/j.intimp.2015.01.030. (IF: 5.6)
9. Park HJ, **Kim DH**, Lim SH, Kim WJ, Youn J, Choi YS, Choi JM. Insights into the role of follicular helper T cells in autoimmunity. *Immune Netw*. 2014 Feb;14(1):21-9.

doi: 10.4110/in.2014.14.1.21. (**Co-first, Review article**) (IF: 6)

CO-AUTHOR PUBLICATIONS (IF: JCR 2023 based)

1. Hou J, Zhou Y, Cai Z, Terekhova M, Swain A, Andhey PS, Guimaraes RM, Ulezko Antonova A, Qiu T, Sviben S, Strout G, Fitzpatrick JAJ, Chen Y, Gilfillan S, **Kim DH**, Van Dyken SJ, Artyomov MN, Colonna M. Transcriptomic atlas and interaction networks of brain cells in mouse CNS demyelination and remyelination. *Cell Rep*. 2023 Mar 21;42(4):112293. doi: 10.1016/j.celrep.2023.112293. (IF: 8.8)
2. Panda SK, **Kim DH**, Desai P, Rodrigues PF, Sudan R, Gilfillan S, Cella M, Van Dyken SJ, Colonna M. SLC7A8 is a key amino acids supplier for the metabolic programs that sustain homeostasis and activation of type 2 innate lymphoid cells. *Proc Natl Acad Sci U S A*. 2022 Nov 16;119(46):e2215528119. doi: 10.1073/pnas.2215528119. (IF: 11.1)
3. Liu TT, Kim S, Desai P, **Kim DH**, Huang X, Ferris ST, Wu R, Ou F, Egawa T, Van Dyken SJ, Diamond MS, Johnson PF, Kubo M, Murphy TL, Murphy KM. Ablation of cDC2 development by triple mutations within the Zeb2 enhancer. *Nature*. 2022 Jul;607(7917):142-148. doi: 10.1038/s41586-022-04866-z. (IF: 64.8)
4. Wang WL, Kasamatsu J, Joshita S, Gilfillan S, Di Luccia B, Panda SK, **Kim DH**, Desai P, Bando JK, Huang SC, Yomogida K, Hoshino H, Fukushima M, Jacobsen EA, Van Dyken SJ, Ruedl C, Cella M, Colonna M. The aryl hydrocarbon receptor instructs the immunomodulatory profile of a subset of Clec4a4⁺ eosinophils unique to the small intestine. *Proc Natl Acad Sci U S A*. 2022 Jun 7;119(23):e2204557119. doi: 10.1073/pnas.2204557119. (IF: 11.1)
5. Jang YO, Lee SH, Choi JJ, **Kim DH**, Choi JM, Kang MJ, Oh YM, Park YJ, Shin Y, Lee SW. Fecal microbial transplantation and a high fiber diet attenuates emphysema development by suppressing inflammation and apoptosis. *Exp Mol Med*. 2020 Jul;52(7):1128-1139. doi: 10.1038/s12276-020-0469-y. (IF: 12.8)
6. Koo JH, **Kim DH**, Cha D, Kang MJ, Choi JM. LRR domain of NLRX1 protein delivery by dNP2 inhibits T cell functions and alleviates autoimmune encephalomyelitis. *Theranostics*. 2020;10(7):3138-3150. doi: 10.7150/thno.43441. (IF: 12.4)
7. Lee HG, Lee JU, **Kim DH**, Lim S, Kang I, Choi JM. Pathogenic function of bystander-activated memory-like CD4⁺ T cells in autoimmune encephalomyelitis. *Nat Commun*. 2019 Feb 12;10(1):709. doi: 10.1038/s41467-019-08482-w. (IF: 16.6)
8. Kang MJ, Yoon CM, Nam M, **Kim DH**, Choi JM, Lee CG, Elias JA. Role of Chitinase 3-Like-1 in Interleukin-18-Induced Pulmonary Type 1, Type 2, and Type 17 Inflammation; Alveolar Destruction; and Airway Fibrosis in the Murine Lung. *Am J Respir Cell Mol Biol*. 2015 Dec;53(6):863-71. doi: 10.1165/rncmb.2014-0366OC. (IF: 6.4)
9. Lim S, Kim WJ, Kim YH, Lee S, Koo JH, Lee JA, Yoon H, **Kim DH**, Park HJ, Kim

HM, Lee HG, Yun Kim J, Lee JU, Hun Shin J, Kyun Kim L, Doh J, Kim H, Lee SK, Bothwell ALM, Suh M, Choi JM. dNP2 is a blood-brain barrier-permeable peptide enabling ctCTLA-4 protein delivery to ameliorate experimental autoimmune encephalomyelitis. Nat Commun. 2015 Sep 15;6:8244. doi: 10.1038/ncomms9244. (IF: 16.6)

10. Park HJ, **Kim DH**, Choi JY, Kim WJ, Kim JY, Senejani AG, Hwang SS, Kim LK, Tobiasova Z, Lee GR, Craft J, Bothwell AL, Choi JM. PPAR γ negatively regulates T cell activation to prevent follicular helper T cells and germinal center formation. PLoS One. 2014;9(6):e99127. doi: 10.1371/journal.pone.0099127. (IF: 3.7)

11. Kang MJ, Choi JM, Kim BH, Lee CM, Cho WK, Choe G, **Kim DH**, Lee CG, Elias JA. IL-18 induces emphysema and airway and vascular remodeling via IFN- γ , IL-17A, and IL-13. Am J Respir Crit Care Med. 2012 Jun 1;185(11):1205-17. doi: 10.1164/rccm.201108-1545OC. (IF: 24.7)

GRANTS

- 일반연구자 지원사업 기본연구: 키틴분해효소 유사 단백질 Chi3l1의 Th1/CTL 조절에 대한 분자적 기전 규명 및 자가면역질환에서의 역할 연구, 한국연구재단, 2018.06.01 - 2019. 05. 31, 50,000,000원, 연구 책임자

- 박사 후 국외연수 지원사업: 아토피 피부염에서의 IL-18 - ILC2 - 조직간 면역 세포 이동 검증 및 염증 조절 표적 물질 확보, 한국연구재단, 2020.09.01 - 2021.08.31, 45,000,000원, 연구 책임자

PATENTS

- dNP2-siRNA complex 매개 암 면역 증가를 통한 암 전이 억제, 등록특허, 발명자 : 김도현, 최제민, 대한민국 (2020년, 10-2083478), 미국 (2022년, 11,524,047)

- 인간 단백질인 ASTN1 (Astrotactin1)으로부터 유래한 세포 투과 펩티드 서열의 개발과 시스테인을 통한 세포 내 단백질 전달 효율 향상, 등록특허, 발명자 : 조현정, 김원주, 최제민, 김도현, 구자현, 이정아, 이홍균, 임상호, 대한민국(2018년, 10-1841211), 미국 (2018년, 9,969,774), 중국(2020년, ZL201580021862.5), 독일 (2020년, DE 3118212), 유럽특허청 (2020년, 3118212), 프랑스 (2020년, FR 3118212)

LANGUAGE

Korean (Maternal), English (Fluent), Japanese (Fluent, experienced translator)

HONORS & AWARDS

Outstanding Ph.D. Thesis Award “Role of Chitinase-Like Protein Chi3l1 in Th1/CTL Immunity and Pulmonary Metastasis” ICKSMCB 2018	09/2018
Best Oral Presentation Award “Genetic Ablation of Chitinase-3-like-1 in T Cell Enhances Th1/CTL Functions to Inhibit Pulmonary Melanoma Metastasis” KAI Spring Symposium 2018	04/2018
Young Investigator Award 2018 The Korean Dendritic Cell Academic Society Symposium	03/2018
Trainee award “Chitinase Like Protein BRP-39 suppress Th1 Differentiation via Regulation of IFN γ -STAT1 axis” AAI Annual Meeting 2015	05/2015
Graduated Cum Laude Department of Life Science, Hanyang University, Korea.	08/2010
JENESIS scholarship (Japan Government) LOTTE scholarship	2009 2009, 2011, 2012

ORAL PRESENTATIONS / INVITED SEMINAR

Invited seminar, 아주대학교 의과대학 초청 세미나 Diet mediated mechanical stretch induce intestinal type 2 activation	09/2023
Invited seminar, 한양대학교 BK21 세미나 A Gastrointestinal type 2 immune circuit controls mammalian adaptation to undigested dietary fiber	09/2023
Invited seminar, 강원대학교 신약개발연구소 국제심포지움 Dietary polysaccharide regulates intestinal innate type 2 response	08/2022
30th ICKSMCB 2018 Role of Chitinase-Like Protein Chi3l1 in Th1/CTL Immunity and Pulmonary Metastasis	09/2018
2018 대한면역학회 춘계 학술대회 Genetic Ablation of Chitinase-3-like-1 in T Cell Enhances Th1/CTL Functions to Inhibit Pulmonary Melanoma Metastasis	04/2018
AAI Annual Meeting 2015 Chitinase Like Protein BRP-39 suppress Th1 Differentiation via Regulation of IFN γ -STAT1 axis	05/2015

REFERENCE

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