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### **Professional experiences**

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*2019-present, Professor, Dept. of Life Science, College of Natural Sciences, Hanyang University, Seoul, Korea*

*2017-present, Department Chair, Dept. of Life Science, College of Natural Sciences, Hanyang University, Seoul, Korea*

*2015-2019, Associate Professor, Dept. of Life Science, College of Natural Sciences, Hanyang University, Seoul, Korea*

*2015-2017, Visiting Assistant Professor, Dept. of Immunobiology, Yale University School of Medicine, CT, USA*

*2010-2015, Assistant Professor, Dept. of Life Science, College of Natural Sciences, Hanyang University, Seoul, Korea*

*2007-2010, Post-doctoral Associate, Dept. of Immunobiology, Yale University School of Medicine, CT, USA (Supervisor; Prof. Alfred L.M. Bothwell)*

*2006-2007, Post-doctoral Fellow, Institute of Life Science & Biotechnology, Yonsei University, Seoul, Republic of Korea (Supervisor; Prof. Sang-Kyou Lee)*

### **Education**

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*2002-2006, Ph.D. Dept. of Biotechnology, Yonsei University, Seoul, Korea (Supervisor; Prof. Sang-Kyou Lee)*

*2000-2002, M.S. Dept. of Biotechnology, Yonsei University, Seoul, Korea (Supervisor; Prof. Ryung Ryang)*

*1996-2000, B.S. Dept. of Biotechnology, Yonsei University, Seoul, Korea*

## **Professional Services**

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1. 2014-present; Academic Editorial Board member of PLoS One
2. 2013-present; Academic Editor of Animal Cells and Systems
3. 2016-present; Academic Editor of Immune Network

## **Honors & Awards**

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1. 2018, Monthly Highlight Research Award by Hanyang University
2. 2018, Outstanding Achievement Award by Korean Association of Immunologists
3. 2017, Outstanding Achievement Award by Korean Association of Immunologists
4. 2017, Outstanding Research Award by Research Institute for Natural Sciences Hanyang University
5. 2016, 50-Best Grants Award by KRF (Korea Research Foundation)
6. 2014, Excellent Paper Award by Korean Association of Immunologists
7. 2014, Good Lecturer Award by Hanyang University
8. 2013, Best Teacher Award by Hanyang University
9. 2010, Travel Award by 14<sup>th</sup> ICI (International Congress of Immunology)
10. 2009, KASBP-Daewoong Fellowship Award by KASBP (Korean American Society in Biotech and Pharmaceuticals)
11. 2009, Travel Award by FOCIS (Federation of Clinical Immunology Societies)
12. 2007, Fellowship from Korea Research Foundation
13. 2006, Young Scientist Award by KSBMB (Korean Society for Biochemistry and Molecular Biology)
14. 2006, Excellent Graduate Student Thesis Award by KSMCB (Korean Society for Molecular and Cellular Biology)
15. 2006, Excellent Thesis Award by Yonsei University

## Publications

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1. Pathogenic function of bystander-activated memory-like CD4<sup>+</sup> T cells in autoimmune encephalomyelitis. Lee HG, Lee JU, Lim S, Kang I, **Choi JM**. *Nat Commun*. 2019 Feb 12;10(1):709.
2. Revisiting the concept of targeting NFAT to control T cell immunity and autoimmune diseases. Lee JU, Kim LK, **Choi JM**. *Front Immunol*. 2018 Nov;9(2747): 1-14.
3. Regulation of human T cell responses by dNP2-ctCTLA-4 inhibits human skin and microvessel graft rejection. Lim S, Kirkiles-Smith NC, Pober JS, Bothwell ALM, **Choi JM**. *Biomaterials*. 2018 Aug 21;183:128-138.
4. Chitinase 3-like-1, a novel regulator of Th1/CTL responses, as a therapeutic target for increasing anti-tumor immunity. Kim DH, **Choi JM**. *BMB Rep*. 2018 May;51(5):207-208.
5. Regulation of Chitinase-3-like-1 in T cell elicits Th1 and cytotoxic responses to inhibit lung metastasis. Kim DH, Park HJ, Lim SH, Koo JH, Lee HG, Choi JO, Oh JH, Ha SJ, Kang MJ, Lee CM, Lee CG, Elias JA, **Choi JM**. *NatCommun*. 2018 Feb 5;9(1):503.
6. Protein Tyrosine Phosphatase Conjugated with a Novel Transdermal Delivery Peptide, AP-rPTP Alleviates both Atopic Dermatitis-like and Psoriasis-like Dermatitis. Kim WJ, Koo JH, Cho HJ, Lee JU, Kim JY, Lee HG, Lee S, Kim JH, Oh MS, Suh M, Shin EC, Ko JY, Sohn MH, **Choi JM**. *J Allergy Clin Immunol*. 2018 Jan;141(1):137-151. \*Editorial commentary
7. Sex-specific regulation of immune responses by PPARs. Park HJ, **Choi JM**. *Exp Mol Med*. 2017 Aug 4;49(8):e364.
8. dNP2-ctCTLA-4 inhibits German cockroach extract-induced allergic airway inflammation and hyper-responsiveness via inhibition of Th2 responses. Lim S, Ho Sohn J, Koo JH, Park JW, **Choi JM**. *Exp Mol Med*. 2017 Aug 4;49(8):e362.
9. Cobll1 is linked to drug resistance and blastic transformation in chronic myeloid leukemia. Han SH, Kim SH, Kim HJ, Lee Y, Choi SY, Park G, Kim DH, Lee A, Kim J, **Choi JM**, Kim Y, Myung K, Kim H, Kim DW. *Leukemia*. 2017 2017 Jul;31(7):1659.
10. Sex-Based Selectivity of PPAR $\gamma$  Regulation in Th1, Th2, and Th17 Differentiation. Park HJ, Park HS, Lee JU, Bothwell AL, **Choi JM**. *Int J Mol Sci*. 2016 Aug 18;17(8).

11. Gender-specific differences in PPAR $\gamma$  regulation of follicular helper T cell responses with estrogen. Park HJ, Park HS, Lee JU, Bothwell AL, **Choi JM**. *Sci Rep*. 2016 Jun 23;6:28495.
12. Cell Type Preference of a Novel Human Derived Cell-Permeable Peptide dNP2 and TAT in Murine Splenic Immune Cells. Lim S, Lee JA, Koo JH, Kang TG, Ha SJ, **Choi JM**. *PLoS One*. 2016 May 17;11(5):e0155689.
13. Use of Cell-Penetrating Peptides in Dendritic Cell-Based Vaccination. Lim S, Koo JH, **Choi JM**. *Immune Netw*. 2016 Feb;16(1):33-43.
14. CpG Oligodeoxynucleotide Inhibits Cockroach-Induced Asthma via Induction of IFN- $\gamma$ <sup>+</sup> Th1 Cells or Foxp3<sup>+</sup> Regulatory T Cells in the Lung. Kim DH, Sohn JH, Park HJ, Lee JH, Park JW, **Choi JM**. *Allergy Asthma Immunol Res*. 2016 May;8(3):264-75.
15. dNP2 is a blood-brain barrier-permeable peptide enabling ctCTLA-4 protein delivery to ameliorate experimental autoimmune encephalomyelitis. Lim SH, Kim WJ, Kim YH, Lee SH, Kim HM, Park HJ, Koo JH, Lee HG, Yoon HS, Kim DH, Lee JA, Kim JY, Shin JH, Kim LK Doh JS, Kim H, Bothwell AB, Lee SK, Suh M, **Choi JM**. *Nat Commun*. 2015 Sep 15;6:8244.
16. Role of Chitinase 3-like-1 in IL-18-induced Pulmonary Type-1, -2 and -17 Inflammation, Alveolar Destruction and Airway Fibrosis in the Murine Lung. Kang MJ, Yoon CM, Nam M, Kim DH, **Choi JM**, Lee CG, Elias JA. *Am J Respir Cell Mol Biol*. 2015 Dec;53(6):863-71.
17. Genome-wide association study of recalcitrant atopic dermatitis in Korean children. Kim KW, Myers RA, Lee JH, Igartua C, Lee KE, Kim YH, Kim EJ, Yoon D, Lee JS, Hirota T, Tamari M, Takahashi A, Kubo M, **Choi JM**, Kim KE, Nicolae DL, Ober C, Sohn MH. *J Allergy Clin Immunol*. 2015 Apr 30. 2015 Sep;136(3):678-684.e4.
18. Piceatannol inhibits effector T cell functions by suppressing TcR signaling. Kim DH, Lee YG, Park HJ, Lee JA, Kim HJ, Hwang JK, **Choi JM**. *Int Immunopharmacol*. 2015 Apr;25(2):285-92.
19. Cell membrane penetrating function of the nuclear localization sequence in human cytokine IL-1 $\alpha$  Koo JH, Yoon H, Kim WJ, Lim S, Park HJ, **Choi JM**. *Mol Biol Rep*. 2014 Dec;41(12):8117-26.
20. PPAR $\gamma$  negatively regulates T cell activation to prevent follicular helper T cells and germinal center formation. 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**. *PLoS One*. 2014 Jun 12;9(6):e99127.

21. Insights into the Role of Follicular Helper T cells in Autoimmunity. Park HJ, Kim DH, Lim SH, Kim WJ, Youn J, Choi YS, **Choi JM**. *Immune Netw.* 2014 Feb;14(1):21-9.; Excellent Paper Award from Korean Association of Immunologists
22. Comparative analysis of mesenchymal stem cell surface marker expression for human dental mesenchymal stem cells. Park JY, Jeon HJ, Kim TY, Lee KY, Park K, Lee ES, **Choi JM**, Park CG, Jeon SH. *Regen Med.* 2013 Jul;8(4):453-66.
23. Cdk-1-mediated phosphorylation of receptor associated protein 80 (RAP80) serine 677 residues modulate DNA damage-induced G2/M checkpoint and cell survival. Cho HJ, Oh YJ, Han SH, Chung HJ, Kim CH, Lee NS, Kim WJ, **\*Choi JM**, Kim H. *J Biol Chem.* 2013 Feb 8;288(6):3768-76. (\*co-corresponding author)
24. Identification of a novel cell-penetrating peptide from human phosphatidate phosphatase LPIN3. Lim S, Kim WJ, Kim YH, **Choi JM**. *Mol Cells.* 2012 Dec;34(6):577-82.
25. Alveolar macrophages play a key role in cockroach-induced allergic inflammation via TNF- $\alpha$  pathway. Kim JY, Sohn JH, **Choi JM**, Lee JH, Hong CS, Lee JS, Park JW. *PLoS One.* 2012;7(10):e47971.
26. IL-18 induces emphysema, and airway and vascular remodeling via IFN- $\gamma$ , IL-17A, and IL-13. Kang MJ, **\*Choi JM**, Kim BH, Lee CM, Cho WK, Choe G, Kim DH, Lee CG, Elias JA. *Am J Respir Crit Care Med.* 2012 Jun 1;185(11):1205-17. (\*co-first author)
27. The nuclear receptor PPARs as important regulators of T-cell functions and autoimmune diseases. **\*Choi JM**, Bothwell AL. *Mol Cells.* 2012 Mar;33(3):217-22. (\*co-corresponding author)
28. Cell permeable NFAT inhibitory peptide Sim-2-VIVIT inhibits T-cell activation and alleviates allergic airway inflammation and hyper-responsiveness. **\*Choi JM**, Sohn JH, Park TY, Park JW, Lee SK. *Immunol Lett.* 2012 Apr 30;143(2):170-6. (\*co-corresponding author)
29. Peroxisome proliferator-activated receptor- $\gamma$  agonists prevent in vivo remodeling of human artery induced by alloreactive T cells. Tobiasova Z, Zhang L, Yi T, Qin L, Manes TD, Kulkarni S, Lorber MI, Rodriguez FC, **Choi JM**, Tellides G, Pober JS, Kawikova I, Bothwell AL. *Circulation.* 2011 Jul 12;124(2):196-205.
30. Cell-permeable Foxp3 protein alleviates autoimmune disease associated with

- IBD and allergic airway inflammation. **Choi JM**, Kim SH, Shin JH, Gibson T, Yoon BS, Lee DH, Lee SK, Bothwell AL, Lim JS, Lee SK. *Proc Natl Acad Sci U S A*. 2010 Oct 26;107(43):18575-80.
31. Branched oligomerization of cell-permeable peptides markedly enhances transduction efficiency of adenovirus into mesenchymal stem cells. Park SH, Jeun SS, Doh JS, Park SI, Lim JY, Kim SM, Youn JI, Jin HT, Seo SH, Song MY, Kim MJ, **Choi JM**, Lee SK, Lee HY, Lim CL, Chung YJ, Yang DU, Kim HN, Lee ZH, Choi KY, Sung YC. *Gene Ther*. 2010 May 20; 17:1052-61.
  32. Synergistic inhibition of T-cell activation by a cell-permeable ZAP-70 mutant and ctCTLA-4. Kim KD, **Choi JM**, Chae WJ, Lee SK. *Biochem Biophys Res Commun*. 2009 Apr 10;381(3):355-60.
  33. Transduction of the cytoplasmic domain of CTLA-4 inhibits TcR-specific activation signals and prevents collagen-induced arthritis. **Choi JM**, Kim SH, Shin JH, Gibson T, Yoon BS, Lee DH, Lee SK, Bothwell AL, Lim JS, Lee SK. *Proc Natl Acad Sci U S A*. 2008 Dec 16;105(50):19875-80.
  34. Antioxidant properties of neohesperidin dihydrochalcone: Inhibition of hypochlorous acid-induced DNA strand breakage, protein degradation and cell death. **Choi JM**, Yoon BS, Lee SK, Hwang JK, Ryang R. *Biol Pharm Bull*. 2007 Feb;30(2):324-30.
  35. Proteomic analysis of resting and activated human CD8+ T cells. Koo JH, Chae WJ, **Choi JM**, Nam HW, Morio T, Kim YS, Jang YS, Choi KY, Yang JJ, Lee SK. 2006 *J Microbiol Biotech*. 16(6):911-20.
  36. Intranasal delivery of the cytoplasmic domain of CTLA-4 using a novel protein transduction domain prevents allergic inflammation. **Choi JM**, Ahn MH, Chae WJ, Jung YG, Park JC, Song HM, Kim YE, Shin JA, Park CS, Park JW, Park TK, Lee JH, Seo BF, Kim KD, Kim ES, Lee DH, Lee SK, Lee SK. *Nature Med*. 2006 May;12(5):574-9.
  37. T Cell-specific immunosuppression using tautomycin or PTD-conjugated protein drugs. Chae WJ, **Choi JM**, Yang JJ, Lee SK. *Yonsei Med J*. 2004 Dec 31;45(6):978-90. Review. No abstract available.