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Educations

1987 B.S., Sungkyunkwan University, Suwon, Korea
1998 Ph.D., Sungkyunkwan University, Suwon, Korea
1989 M.S., Sungkyunkwan University, Suwon, Korea

Professional Background

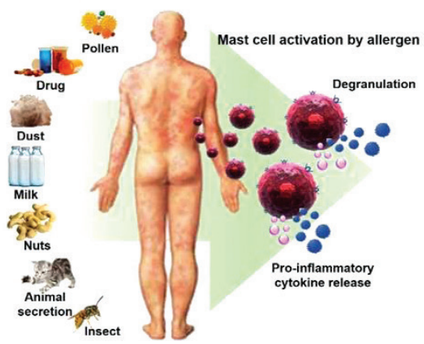
2003-Present Professor: Department of Immunology, College of Medicine, Konkuk University, Seoul, Korea
2000-2003 Research fellow: Laboratory of Molecular Immunology, NHLBI, NIH, Bethesda, MD, USA
1998-1999 Postdoctoral fellow: Department of Biochemistry, The University of Texas at Austin, Austin, TX, USA
1988-1998 Research manager: Department of Pharmacology and Toxicology, Central Research Institutes, Yung Jin Pharmaceutical Co., Ltd., Seoul, Korea

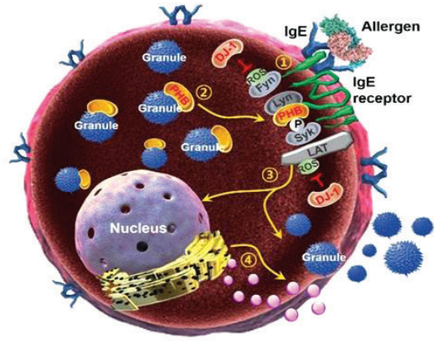
Top 5 Publications

- Kim AR, Kim HS, Kim do K, Nam ST, Kim HW, Park YH, Lee D, Lee MB, Lee JH, Kim B, Beaven MA, Kim HS, Kim YM, **Choi WS**. Mesenteric IL-10-producing CD5+ regulatory B cells suppress cow's milk casein-induced allergic responses in mice. Scientific Reoprts, 6:19685 (2016)
- Kim HS, Kim AR, Kim DK, Kim HW, Park YH, Jang GH, Kim B, Park YM, You JS, Kim HS, Beaven MA, Kim YM, **Choi WS**. Interleukin-10–producing CD5+ B cells inhibit mast cells during immunoglobulin E–mediated allergic responses. Science Signaling. 8:ra28 (2015).
- Kim DK, Kim HS, Kim AR, Kim JH, Kim B, Noh G, Kim HS, Beaven MA, Kim YM, **Choi WS**. DJ-1 regulates mast cell activation and IgE-mediated allergic responses. J. Allergy Clin. Immunol. 131:1653-62 (2013)
- Lee JH, Kim JW, Ko NY, Mun SH, Her E, Kim BK, Han JW, Lee HY, Beaven MA, Kim YM, **Choi WS**. Curcumin, a constituent of curry, suppresses IgE-meidated allergic response and mast cells activaiton at the level of Syk. J. Allergy and Clin. Immunol. 121: 1225-1231 (2008).
- Lee JH, Kim YM, Kim NW, Kim JW, Her E, Kim BK, Kim JH, Ryu SH, Park JW, Seo DW, Han JW, Beaven MA, **Choi WS**. Phospholipase D2 Acts as an Essential Adaptor Protein in the Activation of Syk in Antigen-Stimulated Mast Cell. Blood. 108: 956-964 (2006).

RESEARCH INTERESTS

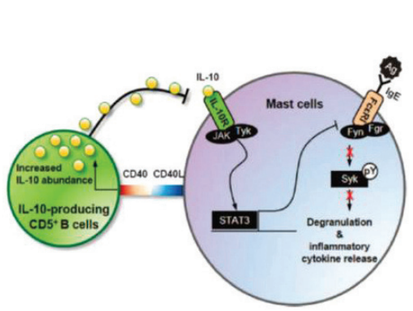
1. Mast Cell Biology

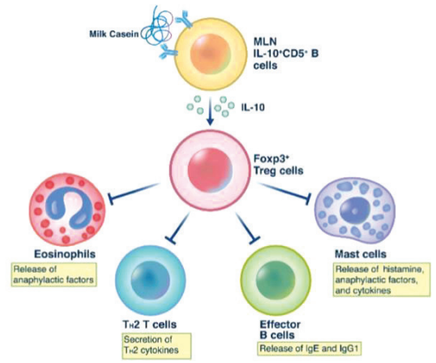




Mast cells play a key role in acquired and innate immunity by mediating inflammatory responses to allergens and pathogenic agents through IgE (FcεRI) and Toll-like (TLR) receptors. Such responses can be debilitating for a substantial proportion of the population. Recently we found that prohibitin and DJ-1 are critical regulators in the activation of mast cells. Our studies have substantially broadened our understanding of the suppression of these responses by various inhibitors. Furthermore, we have provided new perspectives into FcεRI-mediated pathways and their perturbation by pathogens in atopic disease.

2. Regulatory Immune Cells





B cells are generally known for their capacity to regulate effector T cell responses and to produce antibodies. However, studies using murine disease models have revealed some distinct B cell subsets that exhibit immunosuppressive functions, and thus are named regulatory B (Breg) cells. Recently, we found that IL-10-producing CD5+ regulatory B cells suppressed the immunoglobulin E (IgE)- and antigen-mediated activation of mast cells during allergic responses. We also demonstrated that mesenteric regulatory B cells control food allergies via Foxp3+ regulatory T cells, and could potentially act as a therapeutic regulator for treating these allergic responses.