

G304 Immune Response to Immunodominant Peptide in Mice Sensitized with House Dust Mite

Kyung Mi Lee^{1,2*}, Clark, James Parker², Soon Seog Kwon³, Tai-June, Yoo², and Jae Hoon Chung¹

1, Department of Biological Sciences, Korea Advanced Institute of Science and Technology, Korea; 2, Department of Allergy and Immunology, University of Tennessee, U.S.A.; 3, Department of Internal Medicine, Catholic University, Korea

House dust mite(HDM) is a ubiquitous allergen and a major cause of allergic disease in humans. *Dermatophagoides pteronissinus* allergen 1 (Der p1) has been identified as a major allergen of house dust mite. The immediate objective of this study is induce suppression of allergen induced immunoglobulin E production by T-cell epitope peptide therapy. Preliminary study showed that T-cells from HDM-sensitized mice recognized multiple epitopes of Der p1. Peptide 3(residues 31-55) was shown to determine the immunodominant epitope of T-cells among these epitopes. When the mice were immunized by injection and intranasal inhalation with HDM or P3 peptide, a histologic study showed mononuclear cell infiltration in the lung tissue. Tcr α β -positive cells were also found in the cell infiltration area of the lung lesions. T-cells were shown to be stimulated *in vitro* in mice sensitized with HDM and P3 peptide. HDM-specific IgE response was observed in HDM-immunized mice, but not in P3 peptide-immunized mice. Expression of both IL-4 and IFN- γ are elevated in only HDM-sensitized mice. These results suggest a possible alternative immunotherapy to induce tolerance by immunodominant peptide 3 .

G305 Induction of Murine B cell inducing factor by Dexamethasone

Soyoung Baek and Gajin Jeong
Department of Microbiology, Seoul National University

Generally, immune responses are known to be suppressed by glucocorticoids. Dexamethasone(DM) has been used to inhibit inflammation and suppress immune responses. Dexamethasone increased cell death decreasing immunoglobulin secretion on murine splenic cell when stimulated at various concentrations. The culture supernatant of murine splenic T cells in the presence of 10^{-7} M dexamethasone for 3 days could stimulate mature B cell to differentiate into immunoglobulin secreting cell. The murine B cell inducing factor(mBIF) increased the number of immunoglobulin secreting cells among given population. Murine splenic T cells, at the concentration of 2×10^5 /ml, produced mBIF which stimulate B cells activated with lipopolysaccharide. The maximal response was observed when lipopolysaccharide and mBIF were present at the initiation of the culture. Delayed addition of mBIF resulted in decreased response consequently.