



1999 ' ,
¹⁰⁾ .

1.

Th2 , cytokine , 가 , 가 ,
 network 가 cytokine 가 , 가 ,
 가 (D. farinae, D. pteronyssinus)
 Alternaria Cladosporium
 cytokine IgE 가 , 가 ³⁾ .

가 IgE , IgG IgG4 가
 가 T 가 2 T
 (Allergen immunotherapy)
 1 T

Noon () 1911 .
 , , , 1
 . 가
 (Th2 Th1
) 가 , IgE-
 ,

¹⁻⁴⁾ , WHO
 가 ⁵⁻⁷⁾ . 1995 (D. farinae, D.
 pteronyssinus) , , 가 가
 ' .
 1 , ⁸⁾ , 1998 8
 ' 가가
 , ⁹⁾ ,

가 () .

가 3. (50

70%)가 ¹¹⁾, (1) (FEV1

<70%) (2) (3)

(4) (5)

가 (6) (new vial)

가

가

가

가 (5)

4.

2. ¹²⁾ honey bee, yellow jacket, wasp

3 5 가 ¹³⁾ fire ant

3 anaphylaxis

3 가 ¹²⁾ (Pachycondyla chinensis) 가

1 2

가 , 가

IgE

IgG IgG4 가 ^{7, 12)}

Table 1.

1.	IgE-
2.	가 가
3.	
4.	: (Dermatophagoides farinae, Dermatophagoides pteronyssinus), 가 (, ,)
5.	가

100 μ g

IgE

3 5

가
가

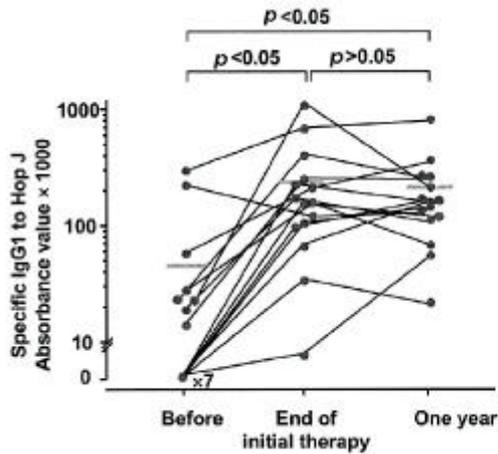


Figure 1A

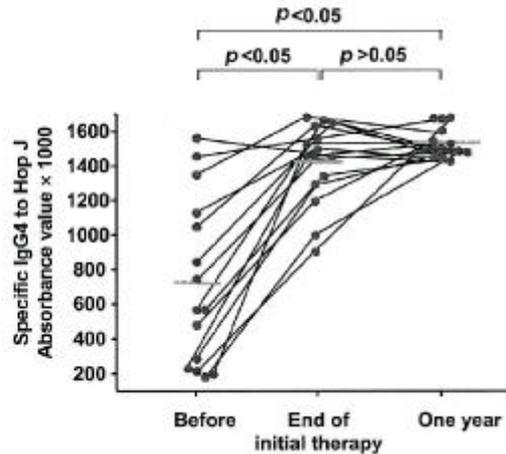


Figure 1B

Figure 1. A. Changes of specific IgG1 antibody to Hop J pollen during the one year-immunotherapy with Hop J pollen extract. B. Changes of specific IgG4 antibody to Hop J pollen during the one year-immunotherapy with Hop J pollen extract.

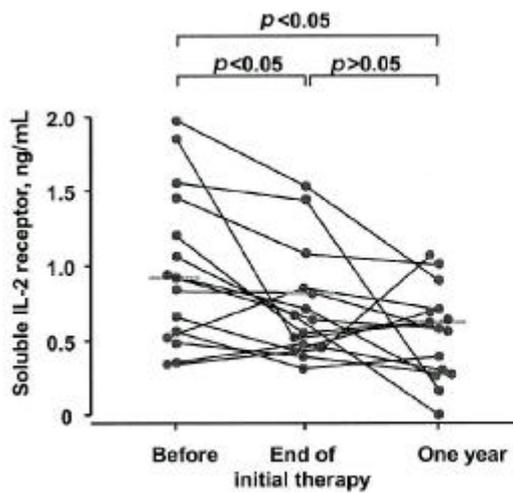


Figure 2A

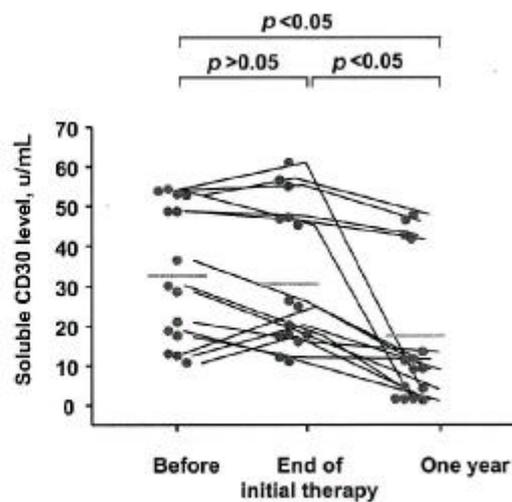


Figure 2B

Figure 2. A. Changes of serum soluble IL-2 receptor level during the one year-immunotherapy with Hop J pollen extract. B. Changes of serum soluble CD30 level during the one year-immunotherapy with Hop J pollen extract.

가 IgE

가

7 IgE¹⁴⁾ 가

가

가 biological activity가 (Der p I) 가

가

5. DNA vaccination

Th2 CPG

motif DNA vaccine 가

가

21, 22) DNA vaccine

immunostimulatory (ISS) signal cDNA

15-18) 가²³⁾ T

가 (Hop) ISS-DNA sequence

Japanese) NK B

가 interferon- IgM

19) IgE Th1 가

가 MHC class I T

가 , Th2

가 IgG , Th2

sCD30, T

sIL-2R (1, 2)²⁰⁾

가

(recombinant allergen) (Immunomodulator therapy)

IgE 가 ‘ IgE ’

가²⁴⁾ IgE

cytokine ‘ IL-4 ’

가

IL-5 , IL-12²⁵⁾

가 가

1. IgE , , 2
 IgE (rhMAB; E25 , ,
) IgE 가 ²⁸⁾ , IL-4
^{26, 27)} IgG light ,
 heavy chain 95%가 가 .
 IgE Fc receptor epitope , 3. IL-5
 free form IgE free IL-5 , 가
 form IgE cytokine ,
 regulation IgE high affinity down IL-5
 IgE ,
 가 , 2 4 ²⁹⁾ , IL-5
 E25 19 9 ,
 가 ,
 , 가
 , 317
 E25
 20 , IgE 가 ,
 가 ,
 2 가
 , 가
 , 가
 , 가 IgE IL-4

2. IL-4 (soluble IL-4 receptor)
 IL-4 Th2 IgE 가
 cytokine , ' IL-4 ' B
 IgE
 , IL-4 ,
 , IL-4
 IgE
 500 1500 µg

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