

알레르기성 비염의 최신 치료
 - 분자생물학적 기법을 적용한 유전자 치료법 -

전 시 영

Recent Advance in the Treatment of Allergic Diseases
 - Immunomodulation with Gene Transfer -

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서 론

가 Th1 Th2 , Th1
 Th1
 (Th1 - cytokine, IL - 2, IFN)
 4 , Th2
 가 Th2
 (Th2 - cytokine, IL - 4, IL - 5) 1
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 Th1 Th2
 10 2)
 T 가 Th2
 2
 가 , Th2 - cytokine 가
 가 , 가
 1)
 2000 3)
 antigen presentation
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 (Fig. 1).
 가 Th1 - cyt -
 okine gene transfer DNA - based immunization
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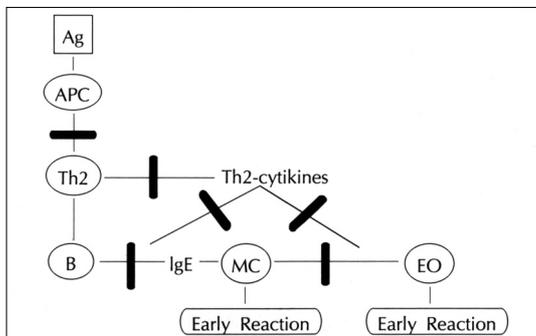


Fig. 1. Molecular targeting for immunomodulation. Pathways leading to development and/or progression of antigen-induced allergic inflammation have been primary targets proposed for modulation. These include strategies in modulations of cellular interaction, IgE synthesis, cytokine production, and cytokines (Ag : allergen, APC : antigen presenting cell, Th2 : Th2 cell, B : B cell, MC ; mast cell, Eo : eosinophil).

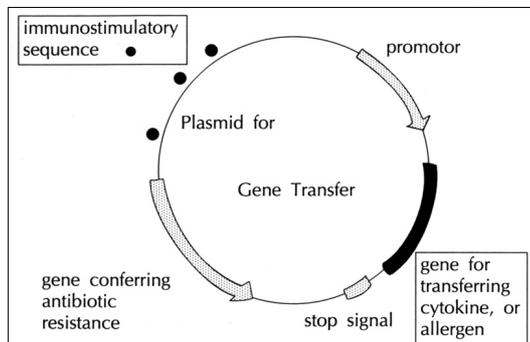


Fig. 2. Plasmid for gene transfer has 2 essential components. First is the construct that is responsible for synthesis of protein, which includes promoter of transcription, nucleotide sequence of Th1-cytokines or specific allergen, and termination sequence. In addition, the plasmid will generally contain an antibiotic selection marker to aid identification and purification, and must contain the immunostimulatory sequence (CpG motifs) that act as adjuvants and increase IL-12 and IFN-g production in a dose-dependent manner.

Th1-Cytokine Gene Transfer

Th2 Th1 Th1-cytokine Th2 Th1-cytokine INF INF Th1-cytokine INF IL-12 Th2-cytokine, Th1-cytokine gene transfer INF 가 Th2-cytokine, IL-12 gene vaccina virus Th1-cytokine gene transfer

DNA-Based Immunization

DNA Th1 Th2 DNA vaccination Th1 Th2 DNA (pDNA) IgG2 IgG1 가 IgE 90% DNA vaccination CpG motif CpG motif가 Th1

MHC (major histocompatibility complex) class antigen presentation MHC class antigen presentation MHC class antigen presentation pDNA MHC class an-tigen presentation CD8 + T INF Th1 Th2 요 약 가 DNA vaccination , Th1 Th2 Th1 - cytokine gene transfer Th2 - cy - antisense - DNA , 14) 15) 가 Th1 Th2 가 2000 중심 단어 : Th - 1 cytokine gene transfer · DNA - based immunization · DNA vaccination.

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