



•Increased Serum Levels of IL-28, IL-29 and Protective Effect of IL28B rs8099917 Polymorphism in Patients with Hashimoto's Thyroiditis

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Background

•*Hashimoto's thyroiditis (HT)* is thought to result from the decreased of T helper type 2 (Th2) responses, leading to progressive destruction of thyrocytes. IFN- λ 1, - λ 2, and - λ 3 (also known as IL-29, IL-28A, and IL-28B, respectively) is a recently described member of the IFN- λ family and has been shown to decrease production of Th2 cytokines in vitro. However, the role and mechanism of IFN- λ 1 in Hashimoto's thyroiditis remain unknown

Purpose

•The purpose of our study is to elucidate whether the IL-29 and IL-28B gene polymorphisms are susceptibility genes for the development of HT. Also we aimed to investigate the effects of IL-29 and IL-28 serum levels on pathogenesis of HT.

Material/Method

Using the polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method, the single-nucleotide polymorphisms (SNPs) of IL28B rs8099917 (IL28 G/T) and IL29 rs30461 (IL29 T/C) were studied in 99 patients with HT and 100 healthy controls.

Results

Considering the allelic distribution for IL28 G/T polymorphism a higher frequency of G allele was observed in the control group when compared to the HT group. So it was suggested that G allele may be a protective role for HT pathogenesis (OR= 0.388 95%-CI 0.217-0.693; p=0.001).

Also our findings demonstrate that there was statistically significant difference in serum IL-28 and IL-29 levels between case and control groups (p<0.001). The increased serum levels of IL-28 and IL-29 in patients with HT was determined.

Table 1. The primer sequences, annealing Tm, restriction enzymes for detecting each single nucleotide polymorphism (SNP)

SNP	Reference SNP ID	Forward primer Reverse primer	Annealing Tm	Restriction enzyme
IL28 G/T	rs8099917	5'- CAT CCC TCA TCC CAC TTC TGG-3'(F) 5'- CTG GGC CAC CAC AAT TCA TC - 3'(R)	55 °C	BsrDI
IL29 T/C	rs30461	5'- TGAACA TGC ACA GTT ACG CAC -3'(F) 5'- GAG CCA ATA GGA GCC CAG AC -3'(R)	54 °C	AvaII

Conclusion

In conclusion, IL-28B gene polymorphism and serum IL-28 and IL-29 levels seemed to play a role in the pathogenesis of HT.

