Abstract
The Human Leucocyte Antigen (HLA)-DMA and DMB genes are located in the HLA-D region between DQ and DP. HLA-DM molecules play an important role in the process of peptide loading to HLA class II antigens, both in regulating the dissociation of class II-associated invariant chain peptides (CLIP) and the subsequent binding of exogenous peptides to HLA class II molecules. In order to investigate the immunogenetic heterogeneity within the HLA-D region, we designed this study to explore the relationship between HLA-DMA, DMB, and genetic susceptibility to type 1 diabetes in Chinese. Our results showed that HLA-DMA*0103 and HLA-DMB*0103 alleles contributed to the predisposition, while HLA-DMA*0102 and HLA-DMB*0101 alleles conferred protection to type 1 diabetes in Chinese. HLA-DMA*0101/0102 and DMB*0101/0101 genotypes were significantly increased in the controls, HLA-DMB*0103/0103 and DMA*0101/0103 genotypes were significantly increased in the patients. In Chinese, HLA-DMA*0102/DMB*0101 heterodimer confers protection to type 1 diabetes, while HLA-DMA*0103/DMB*0102, DMA*0103/DMB*0103 and DMA*0103/DMB*0101 heterodimers confer susceptibility to type 1 diabetes. In general, our study suggests that HLA-DMA and DMB genes may be associated with the susceptibility to type 1 diabetes in Chinese. (HK J Paediatr (new series) 2005;10:20-25)

Key words: Human leucocyte antigen; Non-classical gene; Type 1 diabetes