

Analysis of HLA-A, HLA-B and HLA-DRB1 alleles in Chinese patients with lung cancer

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ABSTRACT. The primary function of the human leukocyte antigen (HLA) system is to regulate the immune response. Because of its important role in the immune response and its high degree of polymorphism, the HLA system is associated with many diseases. We examined the polymorphisms of HLA-A, B and DRB1 alleles in 100 unrelated patients with lung carcinoma and in 438 unrelated normal controls of Han nationality from North China, using sequence-based typing and PCR with sequence-specific primers. We found that the frequencies of HLA-A*0201, A*2601, B*1518, B*3802, DRB1*0401, DRB1*0402, and DRB1*1201 were higher in the lung carcinoma group than in the normal control group. The P values were 0.035, 0.040, 0.001, 0.017, 0.014, 0.004, and 0.019, respectively, and the odds ratio values were 1.052, 3.513, 4.047, 3.054, 4.237, 19.397, and 2.128, respectively. The frequency of HLA-DRB1*1302 was lower in the lung carcinoma group than in the normal control group (P = 0.046, odds ratio = 0.168). We concluded that patients with lung

cancer and healthy controls of Han nationality from North China differ in the frequencies of various HLA alleles.

Key words: Lung carcinoma; Human leukocyte antigen; Gene frequency