

洛阳市汉族群体ADH2和ALDH2的基因多态性研究

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收稿日期 修回日期 网络版发布日期 接受日期

摘要 为研究洛阳市汉族群体ADH2和ALDH2基因的多态性分布,应用聚合酶链反应-扩增片段长度多态性(PCR-APLP)分析法,对ADH2基因外显子3和ALDH2基因外显子12的特定片段同时进行特异性扩增,用非变性的聚丙烯酰胺垂直凝胶电泳和DNA银染方法判定基因型。ADH2*1和ADH2*2等位基因频率分别为42.86%和57.14%,ADH2*1/*1、*1/*2和*2/*2的基因型频率分别为22.86%、40.00%和37.14%;ALDH2*1和ALDH2*2的等位基因频率分别为85.24%和14.76%,ALDH2*1/*1、*1/*2和*2/*2的基因型频率分别为71.43%、27.62%和0.95%。洛阳市汉族群体ADH2和ALDH2的等位基因频率和基因型频率不同于台湾人和上海人,ALDH2*1/*1基因型频率明显高于上海人和台湾人的。因而,洛阳市居民对酒精的耐受性比上海人和台湾人强。

Studies of Genetic Polymorphisms of ADH2 and ALDH2 among the Han Population in Luoyang China
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Abstract: In order to investigate genetic polymorphisms of ADH2 and ALDH2 among the Han population in Luoyang City, portions of exon 3 of ADH2 and exon 12 of ALDH gene were amplified by using polymerase chain reaction. The amplified products were electrophoresed on 10% undenatured vertical polyacrylamide gels and stained with argentine. Frequencies of ADH2*1 and ADH2*2 alleles are 42.86% and 57.14%. Frequencies of three genotypes of ADH2 are 22.86%, 40.00% and 37.14%, respectively. Frequencies of ALDH2*1 and ALDH2*2 alleles are 85.24% and 14.76%. Genotype frequencies of ALDH2 loci are 71.43%, 27.62% and 0.95%, respectively. Genetic polymorphisms of ADH2 and ALDH2 among the Han population in Luoyang City are different from those among Taiwanese and Shanghainese. Frequency of ALDH2*1/*1 in Luoyang people is higher than those in Shanghai and Taiwan. Therefore, there is a higher resistance to alcohol drinking in the Han population in Luoyang.
Key words: polymerase chain reaction-amplified products length polymorphism; alcohol dehydrogenase 2; aldehyde dehydrogenase 2; genetic

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