Abstract: 

Therapy resistance in a significant number of children with Acute Lymphoblastic Leukemia (ALL) is still a major difficulty to successful treatment. The A allele of C934A is associated with reduced event-free survival and increased risk of relapse. In this study the genotype of A934C ABCC4 will be appear by tetra-primer ARMS PCR in Iranian children with ALL. Tetra-primer ARMS PCR is a simple, effective and economical SNP genotyping method based on Allele Specific (AS) primers. Four primers are required to amplify a larger fragment from template DNA containing the SNP and two smaller fragments representing each of the two AS products. Primers are designed in such a way that the two allelic products differ in size and can be separated by agarose gel electrophoresis. To enhance the specificity of the reaction, in addition to the first mismatch at the 3' end of AS primers, an extra mismatch is also deliberately introduced at the third position from the 3' end of each of the two inner AS primers. Four primers, one pair of inner AS primers and one pair of outer standard primers, are required in a single PCR reaction. The length of AS product for A allele is 236 bp and for C allele is 135 bp. in addition product of two outer standard primers is 324 bp. The process in ongoing and collecting of data has not been finished yet.