Polymorphisms in LEF-1 and TBX-21 in Association with the Susceptibility of HIV

Loredo, Gisell

Liu, Yang

The human immunodeficiency virus (HIV) became associated with the autoimmune deficiency syndrome (AIDS) in 1989. Even after years of research there´s still no cure nor preventative treatment for this formidable disease. There are numerous factors that play into how HIV infects the body. It´s important to identify those problems before discovering any true and long-lasting solutions. In this study the human genome was searched for potential problems through single nucleotide polymorphisms (SNPs), LEF-1 and TBX-21. Both of these encode for a component dealing with the immune system, so a mutation could lead to dysfunctional immunity. Determining the associations of these SNPs to HIV/AIDS will provide a clearer understanding of how HIV infects the body and could lead to further research into how to take care of these problems. To find these associations, 4300 samples of DNA were genotyped for the named SNPs utilizing real-time Polymerase Chain Reaction (PCR). The PCR run results were summarized from SDS software to an Excel sheet and combined with clinical data through a program called R. This helped to draw conclusions and measure statistical significance. After significance of results were established, it was possible to determine if LEF-1 and TBX-21 polymorphisms showed an increased risk of progression to AIDS.

Awards Won: