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ABSTRACT BOOK

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Human, animal and related abstracts

Primers design for genotyping of Hepatitis C

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Abstract

The determination of the genetic and sub genetic specificity of Hepatitis C virus (HCV) is crucial for diagnosis. Treatment depends on the genotype of the HCV. HCV is a highly variable retrovirus due to instability of the RNA genome and high rate of mutations in genetic material. In this way, application of biochemical and immunological tests is insufficient to distinguish the genetic and sub genetic specificity. Consequently, genetic tools are essential for accurate diagnosis and treatment, and the PCR method allows completing specific diagnoses. We developed a set of reagents for real-time PCR diagnosing the HCV in human plasma. For this, we analyzed the genome of six genotypes of HCV to identify conservative regions suitable for primer construction. The nucleotide sequence of HCV was taken from an open source database (NCBI). Based on the analysis we designed and synthesized primers and a fluorescent probe for six genotypes. The sensitivity and specificity of a set of reagents were investigated on clinical blood plasma samples.

Keywords: Polymerase chain reaction, primers design, HCV, molecular diagnostic, genotype, genetic material, nucleotide sequence