2021
August 13
Webinar

36th International Conference on
Immunology & Immunogenetics

Unknown Mutation detection via Restriction hybridization Method instead of using Next generation sequencing method

Umair Masood

In biology mutation is a change in the nucleotide sequences of the DNA of an organism Mainly there are three types of mutation: point mutation, deletion and insertions. Once the mutation has been defined allele specific oligonucleotide hybridization, amplification, heteroduplex formation method referred to as a diagnostic method some advance technique like CRISPR cas9 system is using for selected mutagenesis. Using restriction method system we can detect a mutation. Let's say you have a DNA sample with fluorescent labeled from patient and you want to make sure that gene you are interested is in healthy gene. We can design different short fragment sequences to scan through DNA or find specific gene or mutation. The sequences scan the DNA if the sequences does not find targeted gene it does not bind to it its means that no fluorescence color appears under UV-light each different short fragment sequences is label with different colors. If the different short fragments sequence does not bind to the DNA or specific gene or area this means that there will be no color appear under UV light this part or gene will be separated from the DNA by using Restriction enzyme to do a Sanger sequencing gel electrophoresis. Result of the Sanger sequencing will provide the information about sequence of unknown part or gene of the DNA this method is easier and cost economic method instead of Next generation sequencing method.

Result and observation:

In the given diagram E,G,F does not show any color under UV light its mean that E,G,F part will be separated from the DNA in order to perform a Sanger gel electrophoresis E,G,F have unknown variation or unknown SNP which cannot be available in any Database or data sections