EFFECTS OF RE - AMPLIFICATION OF PCR PRODUCTS USING DNA EXTRACTED FROM *Ocimum gratissimum L.*

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ABSTRACT

Ocimum gratissimum L is a medicinal plant belonging to the family lamiaceae which is the mint family that grows all over the world and it is being widely used as a herbal drug by the various communities in third world countries for treatment of common ailments. Because of its medicinal properties, it is important to carry out extensive research on this plant in terms of molecular work so as to come up with a safer and well constituted drug. Because of this a study to determine its genetic diversity is on and has resulted in looking for a better and cheaper way of obtaining enough DNA concentration for electrophoresis analysis. The polymerase chain reaction is a powerful new technique that allows scientists to amplify a specific DNA sequence millions of times in just a few hours. This technique was invented by Dr. Kary Mullis in 1983 and has revolutionized many areas of genetic research including, genetic disease diagnosis, forensic medicine and molecular revolution.PCR is used to amplify specific regions of a DNA strand. This can be a single gene, part of a gene, or a non-coding sequence. Most PCR methods typically amplify DNA fragments of up to 10 kilo base pairs (kb). Some PCR methods can copy DNA fragments of up to 40 kb in size, which are still much less than the total nuclear DNA content of a eukaryotic cell.

In this study, eighteen samples of *Ocimum gratissimum* were studied. DNA was extracted from the samples using the SDS (Sodium Dodecyl Sulphate) protocol, purified and then amplified using the PCR machine. Of the PCR products obtained, some were used in gel electrophoresis to detect the movement of bands while the remaining amounts were used as the DNA template and thus re-amplified. Gel electrophoresis was then carried out on the re-amplified products and the bands formed after electrophoresis were compared with the earlier electrophoresed samples. And thus the effects on PCR product was amplification noted.