

A chloroplast DNA (cpDNA) extraction protocol for diversity analysis of oil palm (*Elaeis* sp.)

ABSTRACT

Oil palm chloroplast is maternally inherited, making investigation of the chloroplast diversity an interesting endeavor. This paper describes a method for extracting enriched oil palm chloroplast DNA (cpDNA) done on six palms of different origins from Angola, Nigeria, Ghana, Madagascar and Suriname. Restriction enzyme digestion was used to evaluate the successful extraction of the oil palm cpDNA. The use of a mitochondrial DNA specific-universal primer revealed that most of the cpDNA were free from mitochondrial DNA contamination. Three chloroplast- specific universal primers were also used to evaluate the cpDNA. Their amplicons were cloned and sequenced to confirm that the cpDNA was indeed amplified. A search against the public databases further confirmed that the primers amplified sequences of the *Elaeis guineensis* Jacq. chloroplast genome. Two of them gave consistent amplifications when tested on cpDNA from the Angolan, Nigerian, Ghanaian, Madagascan and Suriname palms.

Keyword: Chloroplast DNA (cpDNA); *Elaeis* sp; Oil palm diversity; Chloroplast specific-universal primers