RESEARCH ARTICLE

PURIFICATION OF QUALITY DNA FROM CITRUS PLANT USING IRON OXIDE NANOPARTICLE AS SOLID BASED SUPPORT

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Abstract: Purification of quality DNA is one of the essential factors affecting the success of molecular genomic studies. No single existing nucleic acid extraction method is sufficient for quality yield of DNA from high polyphenol contaminated plant materials. Here, in this study we have synchronized CTAB based lysis method with magnet mediated DNA separation utilizing iron oxide nanoparticles. An inexpensive, rapid and simple protocol has been described for extracting high quality genomic DNA from citrus leaves. Purity of the extracted DNA was revealed by the ratios of absorbance at 260/280 nm to be close to 1.80. Isolated plant genomic DNA was directly analyzed for PCR amplification which indicate freedom from common contaminating compounds. Possibly, this description is reported for the first time for the isolation of DNA from mature citrus leaf employing unmodified iron oxide nanoparticle.

Keywords: Plant, DNA isolation, Magnetic Nanoparticle, Iron oxide, PCR

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