

An Organic Dye-Based Staining for Plant DNA

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Abstract : In plant biotechnology, electrophoresis is used to detect nucleic acids. Ethidium bromide (EtBr) is used as an intercalator dye to stain DNA in agarose gel electrophoresis, but this dye is mutagenic and carcinogenic. In this study, a visible, reliable and organic Ruthenium-based dye (N-719) for staining plant DNA in comparison to EtBr. When prestaining and post-staining for gel electrophoresis, N-719 stained both DNA and PCR product bands with the same clarity as EtBr. The organic dye N-719 stained DNA bands as sensitively and as clearly as EtBr. The organic dye was found to have staining activity suitable for the identification of DNA. Consequently, N-719 organic dye can be used to stain and visualize DNA during gel electrophoresis as alternatives to EtBr in plant biotechnology studies.

Keywords : agarose gel, DNA staining, organic dye, N-719

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