



Conference Proceeding

How to Resolve Nucleic Acids with High Separation Performance by Pulsed Filed Capillary Electrophoresis

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Abstract

Nucleic acid separation is an important technology in molecular biology, following by polymerase chain reaction (PCR) analysis or before cloning, sequencing, northern or southern blotting. So far, high performance liquid chromatography (HPLC), capillary electrophoresis (CE), and slab gel electrophoresis (SGB) are three common methods used for the separation of DNA. In HPLC, the separation mechanism involves partitioning of analytes between a mobile and stationary phase. Besides the separation performance, CE are deemed to have distinct advantages over HPLC, because instrumentation of HPLC is rather complex compared to the simplicity of CE or SGE system. Furthermore, the elution of large molecules can only be achieved by changing the selectivity during separation process (e.g. gradient elution), and expensive preppacked columns are required which have limited life time in HPLC. However, the short and long nucleic acids (DNA or RNA) cannot always be resolved with high separation performance simultaneously. In this report, we demonstrated our research on how to resolve nucleic acids with high separation performance by pulsed field capillary electrophoresis.

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