

PCR* Product Analysis Kit for Capillary Electrophoresis

Introduction

Separations of low molecular weight nucleic acids such as restriction fragments and products of the polymerase chain reaction (PCR) have been traditionally performed by electrophoresis on agarose or polyacrylamide gels. Dynamic sieving capillary electrophoresis on the BioFocus® system is an alternative approach for nucleic acid separations. It provides rapid, automated analysis, minimum consumption of sample, and direct detection of separated sample components without the need for casting slab gels and ethidium bromide staining.

Theory

Through the use of dynamic sieving in a polymer solution, nucleic acids can be separated without the need for polymerizing a gel within the capillary. In this technique, a linear hydrophilic polymer is incorporated into the electrophoresis buffer which causes nucleic acids to migrate at rates which are proportional to their molecular weights. Used in conjunction with Bio-Rad's internally coated capillary, electroosmotic flow (EOF) is eliminated and nucleic acids migrate in order of increasing molecular weight.

Kit Components

The CE-PCR Product Analysis Kit is designed to provide the analyst with a tool for performing dynamic sieving separations of nucleic acids. Included are dynamic sieving buffers both with and without 7 M urea, low range DNA size standards, capillary wash solution and instructions for use. The capillary cartridge must be purchased separately.

Applications

The kit is useful for a variety of applications including determination of PCR yields, optimizing PCR conditions, or characterizing restriction enzyme digests. It is a convenient alternative to slab gels for acquiring rapid information on one or a few samples, or when quantitative information on sample components is of interest.

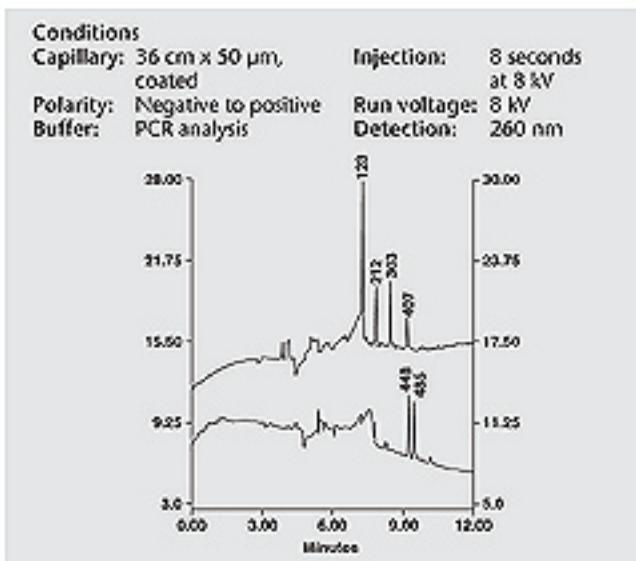


Fig. 1. Separation of PCR-amplified human gene sequences by non-gel sieving.

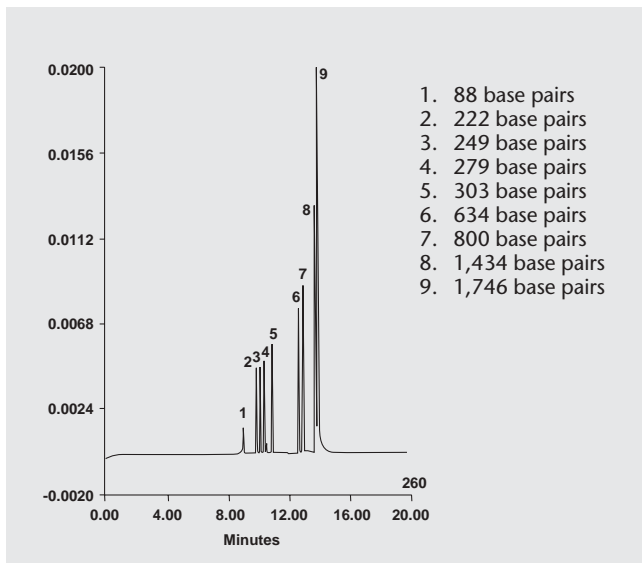


Fig. 2. Low Range DNA Size Standards, catalog number 170-3465.

Ordering Information

Catalog Number	Product Description	Price
148-4130	PCR* Products Analysis Kit	\$275.00
148-3032	BioFocus Cartridge, 36 cm x 50 µm coated	295.00

* PCR is covered by U.S. patent 4,683,202 issued to Cetus Corporation.

Prices are good in the United States only, and are subject to change without notice. See the current Bio-Rad catalog for additional information.

Practice of PCR is covered by U.S. patent numbers 4,683,195, 4,683,202, and 4,899,818 issued to Cetus Corporation which is a subsidiary of Hoffmann-LaRoche Molecular Systems, Inc. Purchase of any of Bio-Rad's PCR-related products does not convey a license to use the PCR process covered by these patents; the user of these products to perform PCR must obtain a license.



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