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BECKMAN COULTER
Capillary Electrophoresis

One Gel, One Array, One Software

CEQ™ 8000 AFLP® Analysis

Figure 1. CEQ™ AFLP Dominant Scoring Software.

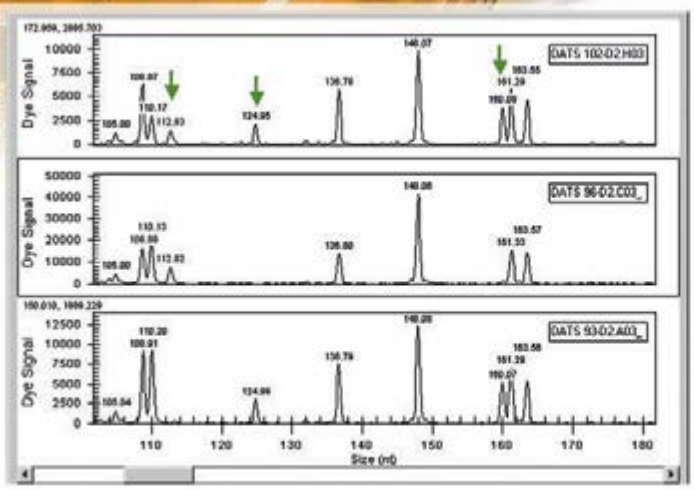

Figure 2. Fragments generated by AFLP® analysis are analyzed in CEQ™ 8000.

The CEQ™ 8000 Genetic Analysis System provides automated sequencing for detailed study of genome structures and rapid DNA fingerprinting for genomes by AFLP analysis.

AFLP analysis is one of the most powerful DNA fingerprinting methodologies for the identification and typing of Eukaryotes and Prokaryotic organisms. In plant molecular genetics, AFLP is used in phylogeny and diversity studies and in a variety of marker-assisted breeding applications. AFLP is also used in microbial genetics fields both in epidemiological and evolutionary studies. AFLP offers many advantages over other earlier procedures such as restriction fragment length polymorphism (RFLP) or random amplified polymorphism (RAPD) DNA.

The CEQ™ 8000 automatically scores the presence or absence of AFLP fragments. This system is accurate, fast and easy to use. For 100 samples, the data analysis time is ***less than 2 minutes vs. 40 hours*** required for manual process *(Figure 1)*.

Genomic DNA (gDNA) is digested with restriction enzyme(s) such as EcoR I and Mse I. Specific adapters are ligated to the restriction ends of the gDNA fragments. The ligated fragments are selectively amplified using WellRED dye (D4-PA, D3-PA and D2-PA) labeled primers specific to the adapters.

The electropherograms may be viewed individually, overlaid or stacked to facilitate data comparison. The black peaks are PCR† amplified fragments. The green arrow indicates peaks that are present in some samples but not in others *(Figure 2)*.

CEQ™ DTCS Quick Start Kit

Figure 3. Quantitative analysis is achieved by exporting peak heights.

AFLP® Analysis

The CEQ™ 8000's dominant scoring algorithm *(Figure 3)* automatically scores the presence or absence of AFLP® fragments in binary mode (1/0) through an integrated binning process. The dominant scoring results are easily used for phylogenetic analysis *(Figure 4)*.

The CEQ Software has a sophisticated set of tools for managing and reviewing data. The sorting and filtering tools operate on a set of over 100 independent properties of individual results and can be mapped to your personal style to automatically review the data.

Quantitative analysis is also possible by using an option to export the peak heights *(Figure 3)*.

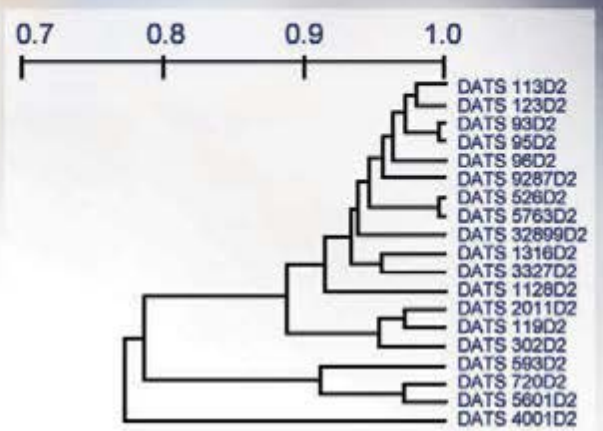

Figure 4. The results are easily used for phylogenetic analysis.

Genome Sequencing

Genome sequences are identified by dye-terminator cycle sequencing (DTCS).

Ordering Information:

Reagents for Automated DNA Sequencing:

608120	CEQ™ DTCS Quick Start Kit
608000	CEQ™ DTCS Kit

Reagents for AFLP Analysis:

608098	CEQ™ DNA Size Standard Kit – 400 (for 60-400 bp)
608095	CEQ™ DNA Size Standard Kit – 600 (for 60-600 bp)

For Labeled Primers contact your local Beckman Coulter sales representative.

Hardware and Software

285501	CEQ™ 8000 Genetic Analysis System, 110/230 V With CEQ™ 8000 Software for Sequencing and Fragment Analysis
285590	CEQ™ 8000 Migration Package (from CEQ™ 2000XL)

CEQ™ Supplies

608087	CEQ™ DNA Separation Capillary Array, 33 cm × 75 µm
608082	CEQ™ Sample Loading Buffer (SLS), 6.0 ml
608010	CEQ™ Separation Gel 1
608012	CEQ™ Sequencing Separation Buffer, 4/pk
609844	CEQ™ Separation Buffer Plates, Nonsterile, without lids, 300 µl/well, 100/pk
609801	Sample Microtiter Plates, 25/pk, V-bottom, Thermal cycler compatible, 200 µl/well

* *AFLP is a registered trademark of Keygene N.V.*

† *The PCR process is covered by patents owned by Roche Molecular Systems, Inc. and F. Hoffman-La Roche, Ltd.*

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