



One Gel, One Array, One Software

CEQ™ 8000 SNP ANALYSIS



Figure 1. SNP Discovery.

Single nucleotide polymorphisms (SNPs) are major contributors to genetic variation, making up approximately 80% of all known polymorphisms. The CEQ™ 8000 Genetic Analysis System provides automated sequencing for SNP discovery and fragment sizing with size/color allele identification for single or multiplexed SNP scoring. The analyzed SNP genotypes are summarized and reported in fragment lists.

SNP Discovery by Sequencing

DNA sequencing is the primary method available to discover previously unknown alleles. The CEQ™ 8000 Genetic Analysis System provides an efficient and robust DNA sequencing protocol using dye-terminator cycle sequencing. The sequences of the unknown samples are aligned with the reference sequence and the loci with SNPs are identified. (Figure 1).

SNP Scoring by Primer Extension

The CEQ™ 8000 Genetic Analysis System allows simultaneous analysis of SNPs at multiple sites of a template (or different templates). The primers are extended with specific dye terminators complementary to the templates. The SNP loci are simultaneously scored through automated sizing and base calling (Figure 2).

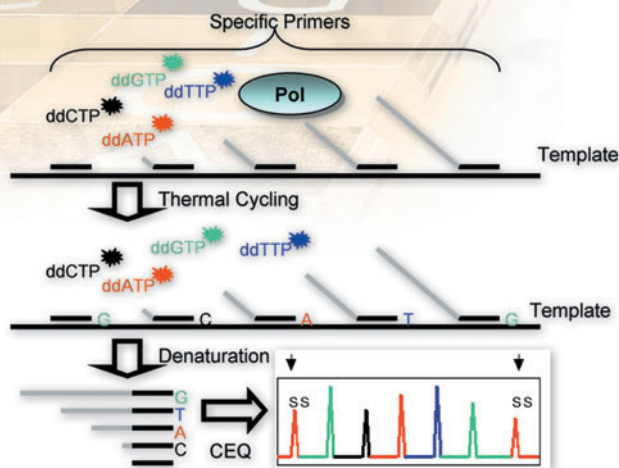
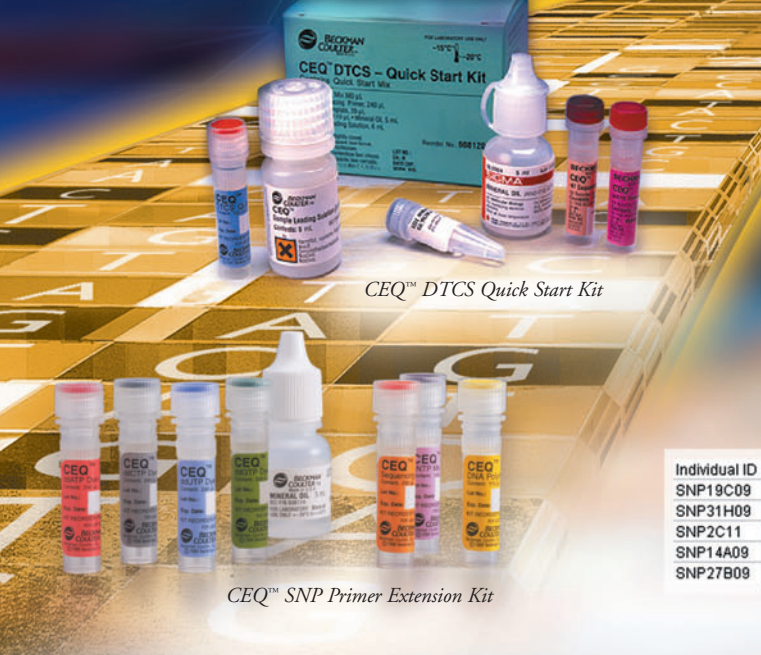


Figure 2. SNP Scoring.



CEQ™ DTCS Quick Start Kit

CEQ™ SNP Primer Extension Kit

Figure 3. SNPs may be identified by a combination of size and color allowing alleles to be identified.

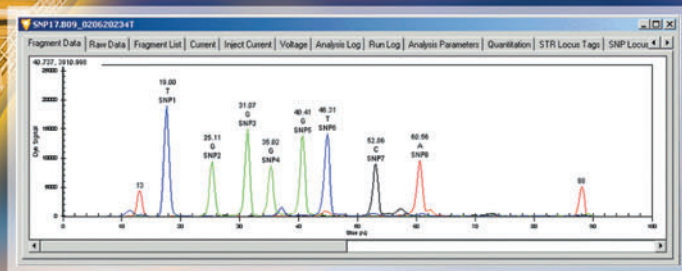
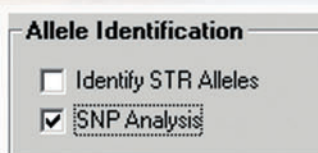


Figure 4. Multiplex SNPs scoring analysis using the CEQ™ SNP Primer Extension Kit.

| Individual ID | SNP1 A1 | SNP1 A2 | SNP2 A1 | SNP2 A2 | SNP3 A1 | SNP3 A2 | SNP4 A1 | SNP4 A2 | SNP5 A1 | SNP5 A2 |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| SNP19C09 | T | T | G | G | G | G | G | G | G | G |
| SNP31H09 | A | T | G | G | A | G | G | G | G | G |
| SNP2C11 | A | T | A | G | A | A | G | G | G | T |
| SNP14A09 | T | T | G | G | G | G | G | G | G | G |
| SNP27B09 | T | T | A | G | A | G | G | G | G | T |

Figure 5. SNP Genotypes exported in spreadsheet format for linkage association analysis.

Ordering Information:

Reagents for Automated DNA Sequencing:

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

Reagents for SNP Scoring by Primer Extension:

- 608395 CEQ™ DNA Size Standard Kit – 80
- 390280 CEQ™ SNP-Primer Extension Kit

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, 33cm × 75 mm
- 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

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* CEQ SNP-Primer Extension Kit is licensed under U.S. patents 5,888,819 and 6,004,704 owned by Orchid Biosciences, Inc.



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