

CGH LABELING FOR OLIGONUCLEOTIDE ARRAYS

CGH Labeling Kit for Oligo Arrays

ENZ-42671

20 Reactions

HIGHLIGHT

- Labeling reagents specifically optimized for oligonucleotide CGH arrays
- Convenient all-in-one system containing Cyanine 3- and Cyanine 5-labeled nucleotides
- Accommodates a wide range of input DNA (0.25 μg – 2.5 μg) without amplification
- Reduced variability with excellent DLR values (0.09-0.12)

Oligonucleotide arrays for CGH (Comparative Genomic Hybridization) enhance the understanding of genetic disorders, cancers and other genomic aberrations by increasing the resolution of detection for copy number variation. Considering that most labeling technologies for array CGH were originally optimized for use on BAC arrays, results on oligonucleotide arrays may vary. By specifically optimizing the labeling reagents, the CGH Labeling Kit for Oligonucleotide Arrays produces high quality data with as little as 0.25 μg of genomic DNA and without the need for amplification.

The CGH Labeling Kit for Oligonucleotide Arrays is based upon a proprietary direct labeling technology that utilizes two distinct labeled nucleotide formulations. Gold 550 dUTP and Red 650 dUTP are proprietary enhanced cyanine 3 and cyanine 5 conjugates with spectral properties that minimize variability and improve signal to noise ratios overall (Figure 1).

Metrics	0.25 μg *	0.50 μg *	2.5 μg *	Agilent QC
Signal Intensity (Green)	245	440	450	> 150
Signal Intensity (Red)	250	383	412	> 150
Signal to Noise (Green)	104	145	158	> 100
Signal to Noise (Red)	143	207	223	> 100
BGNoise (Green)	2.9	3.4	2.8	< 5
BGNoise (Red)	1.7	1.8	1.8	< 5
DLR Spread	0.119	0.1	0.088	< 0.2

TABLE 1: Results obtained using the Enzo Life Sciences' fluorescently labeled nucleotides typically surpass industry benchmark standard QC criteria for oligonucleotide-based CGH arrays. * Amount of input DNA.

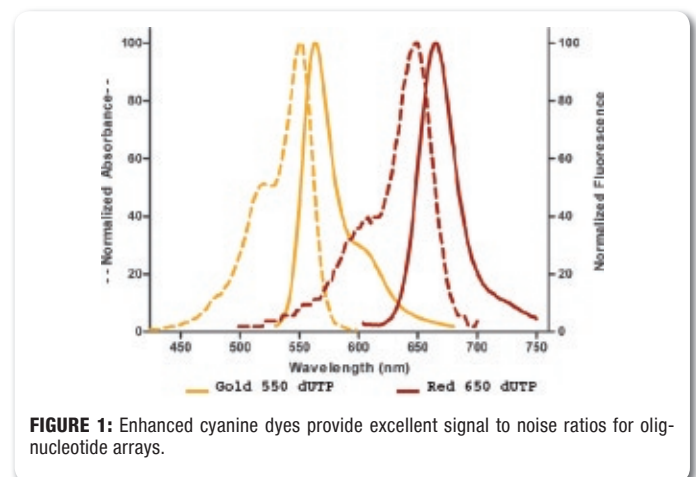
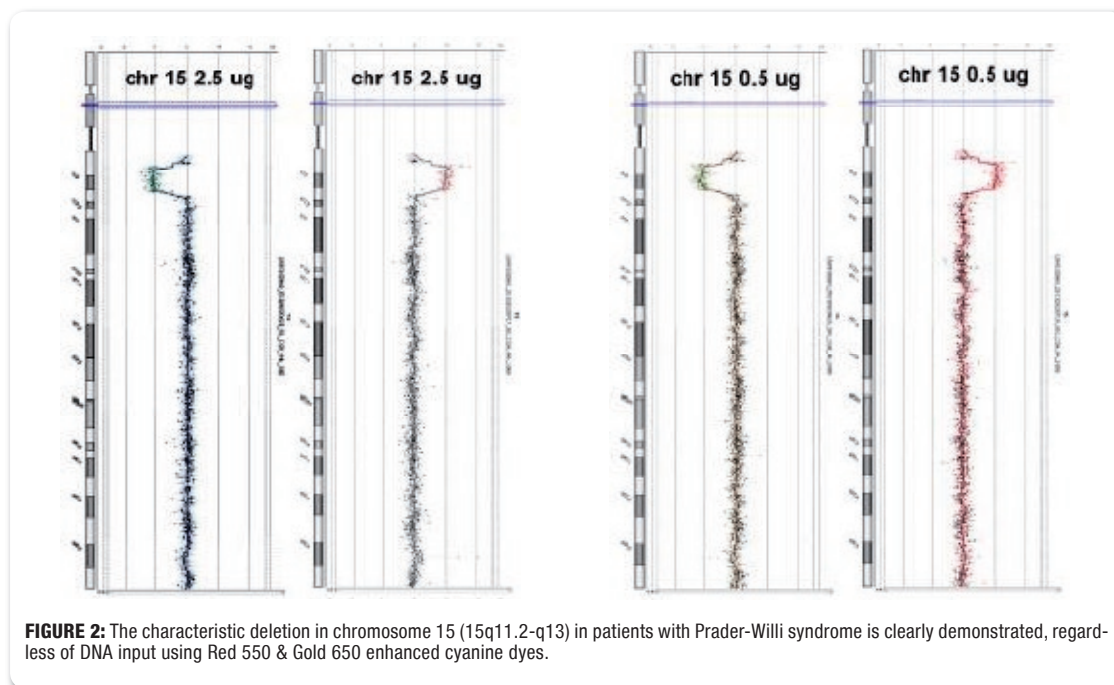


FIGURE 1: Enhanced cyanine dyes provide excellent signal to noise ratios for oligonucleotide arrays.

Analysis of syndromic DNA using an oligonucleotide microarray (Agilent 44K) demonstrated the characteristic deletion in 15q11.2-q13 (chromosome 15) found in patients with Prader-Willi syndrome (Figure 2). Dye swap analysis for either 2.5 μ g or 0.5 μ g of input DNA also reveals comparable signal intensities, background levels and signal to noise ratios overall (Table 1). Further, microarrays Quality Control Metrics exceed the prescribed Agilent values for high quality CGH results while minimizing variability across an array (DLR).



Related Products

Product	Prod. No.	Size
CGH Labeling Kit for BAC Arrays	ENZ-42670	20 Reactions
Gold 550 dUTP	ENZ-42521	25 nmol
Red 650 dUTP	ENZ-42522	25 nmol
Nick Translation DNA Labeling System	ENZ-42910	50 Reactions
BioProbe® 3'-Oligonucleotide Labeling System Reagent Pack	ENZ-42730	25 Reactions
BioProbe® Random Primed DNA Labeling System Reagent Pack	ENZ-42720	25 Reactions

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