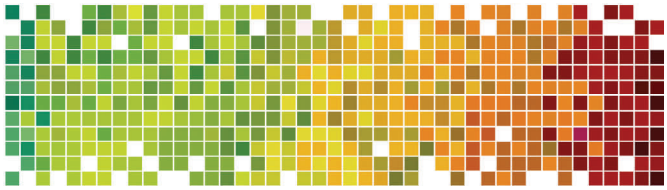


Enzo® CGH labeling for oligonucleotide arrays

Enhanced Cyanine dye performance

- Labeling reagents specifically optimized for oligonucleotide CGH arrays
- Convenient all-in-one system containing 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 without the need for amplification.

Figure 1: Enhanced cyanine dyes provide excellent signal to noise ratios for olignucleotide arrays

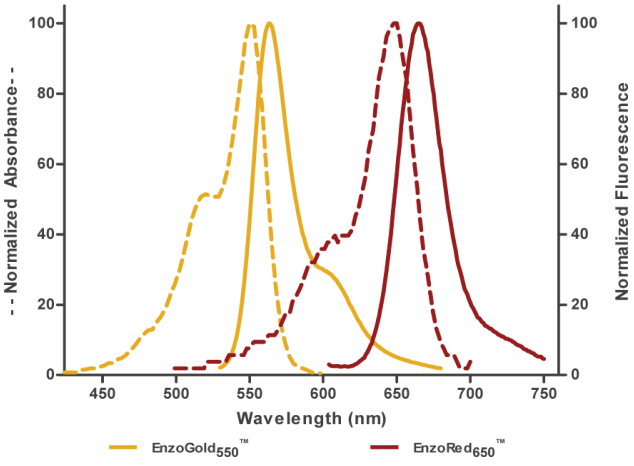


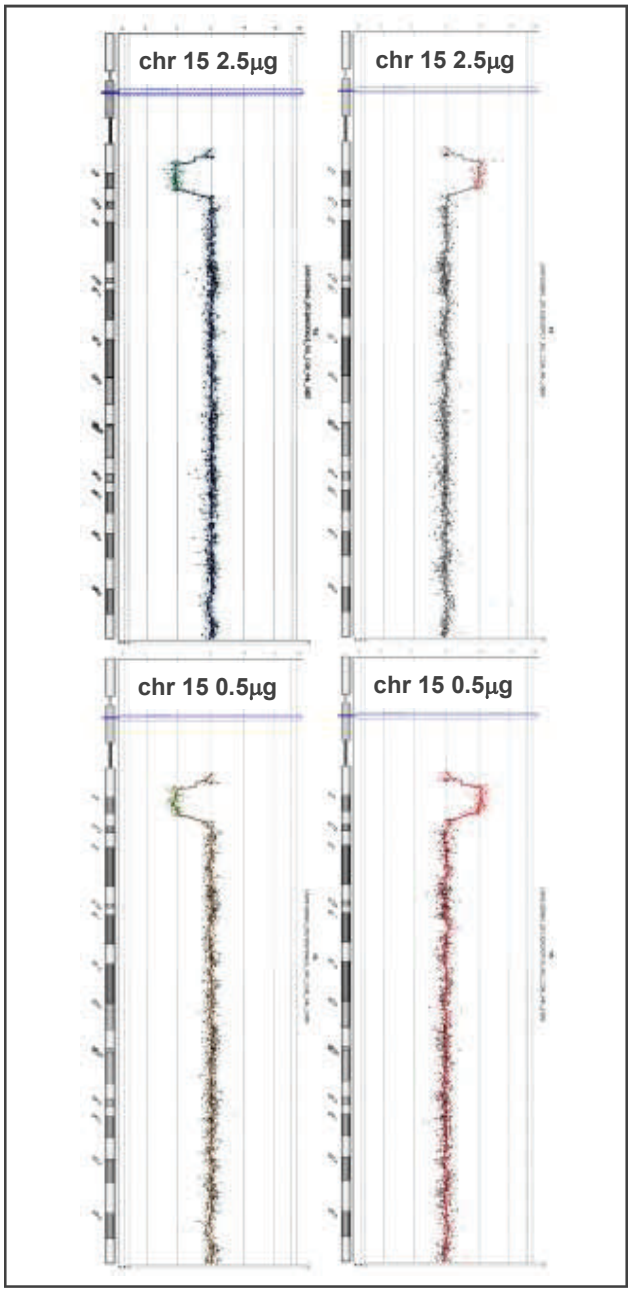
Table 1: Results obtained using Enzo® fluorescent labeled nucleotides typically surpass industry standard QC criteria for oligonucleotide-based CGH arrays.

	Amount of Input DNA			
Metrics	0.25 μg	0.5 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
DLRSpread	0.119	0.1	0.088	< 0.2

The CGH Labeling Kit for Oligonucleotide Arrays is based upon a proprietary direct labeling technology that utilize two distinct labeled nucleotide formulations. Both EnzoGold$_{550}$™ and EnzoRed$_{650}$™ represent enhanced cyanine 3 and 5 dyes with spectral properties that minimize variability and improve signal to noise ratios overall (Figure 1).

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).

Figure 2: The characteristic deletion in chromosome 15 (15q11.2-q13) in patients with Prader-Willi syndrome is clearly shown for regardless of DNA input using Enzo® enhanced cyanine dyes



Dye swap analysis for either 2.5 µg or 0.5 µg 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).

Ordering information

Product	Number	Size
CGH Labeling Kit for Oligo Arrays	ENZ-42671	20 Reactions

Related Products	Number	Size
CGH Labeling Kit for BAC Arrays	ENZ-42670	20 Reactions
EnzoGold$_{550}$™ dUTP	ENZ-42521	25 nmol
EnzoRed$_{650}$™ dUTP	ENZ-42522	25 nmol
Nick Translation DNA Labeling System	ENZ-42910	50 Reactions
3' Oligonucleotide Labeling Kit	ENZ-42830	25 Reactions
Random Priming DNA Labeling System	ENZ-42720	25 Reactions

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