

# Fluorescent Labeling System [dCTP]

Prepare DNA probes for microarray hybridization.

## Description

The Fluorescent Labeling System enables preparation of fluorescent DNA probes. Labeled probes are suitable for *in situ* hybridization (eg, to chromosome spreads) and microarray hybridization.

The Fluorescent Labeling System [dCTP] is included in Illumina microarray packs: 24sure™ (v3.0) Pack (PR-10-408702-PK), 24sure+Pack (PR-10-408602-PK), and CytoChip™ Focus Constitutional Pack (PR-10-409502-PK). It is suitable for 32 labeling reactions.

# Supply

The Fluorescent Labeling System is supplied in a single box, shipped and stored at -20°C. The box is labeled with product name, catalog number, quantity, production lot number, storage conditions, and expiration date.

The Fluorescent Labeling System is supplied with a minimum expiration date of 2 months.

# Storage

The Fluorescent Labeling System [dCTP] should be stored at -20°C in a non-frost-free freezer until required.

## **Technical Specifications**

Random primers (9-mers) are annealed to the denatured, non-fragmented, DNA template and extended by exonuclease-free Klenow fragment in the presence of Cy-dCTP conjugates. This reaction produces sensitive, fluorescent Cy-DNA probes for use in the non-radioactive detection of DNA and RNA.

A Hybridization Buffer containing 15% dextran sulfate is included to support the hybridization of Cy-DNA probes to a microarray comprising bacterial artificial chromosome (BAC) targets on a three-dimensional substrate.

When used in accordance with the recommended protocol, the contents of this kit are sufficient for 32 labeling reactions, 16 hybridizations.

## **Quality Control**

Each lot of Fluorescent Labeling System kits is tested through use in four standard CytoChip sex-mismatched, dye-swap hybridizations. Metrics, including as signal-to-noise ratio, the spread of data points on the autosomal chromosomes, and the shift from 0 (log<sub>2</sub> scale) of data points on the sex chromosomes are used as measures of quality. They have to exceed a threshold set from historical data.

To make sure that components of the Fluorescent Labeling System are supplied with the correct quantities, three kits from each lot are checked for reagent fill volumes.

#### Contents

See Table 1 for a complete list of kit contents and part numbers.

## Safety Information

Safety data sheets are available for download from www.cambridgebluegnome.com.

PR-30-413103-00: 0.5 M EDTA Solution PR-30-413103-00: Cy3Cy5-dCTP PR-30-413103-00: dCTP Labeling Mix PR-30-413103-00: Hybridization Buffer PR-30-413103-00: Klenow Enzyme PR-30-413103-00: Random Primers PR-30-413103-00: Reaction Buffer

### Additional Documents

Additional documents available for download include:

- Laboratory Reference Manuals: 24sure Dual Channel, CytoChip
- Laboratory Summary Protocols: 24sure Dual Channel, CytoChip

Table 1: Fluorescent Labeling System Contents

Catalog No.	Product	No. Rxns	Part No.	Description	Size
PR-30-413103-00	Fluorescent Labeling System [dCTP]	32 (16 hybs)	28977166RN	Primer Solution	370 µl
			28977166RB	Reaction Buffer	370 µl
			28977166LM	dCTP Labeling Mix	185 µl
			28977166WA	Nuclease-Free Water	1,050 μΙ
			28977166C3	Cy3 dCTP	18 μΙ
			28977166C5	Cy5 dCTP	18 μΙ
			28977166EZ	Klenow Enzyme	34 µl
			28977166ST	EDTA Solution	180 µl
			28977166HB	DS Hybridization Buffer (15% dextran sulfate)	1,850 µl

# **Ordering Information**

Product	Catalog No.
Fluorescent Labeling System [dCTP] (32 reactions)	PR-30-413103-00

## **Notices**

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