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SureLabel32SNP [dUTP] FLS

Prepare fluorescent DNA probes for CytoChip™ Oligo SNP microarray hybridization.

Description

The SureLabel32SNP [dUTP] Fluorescent Labeling System (FLS) enables preparation of fluorescent DNA probes. Labeled probes are suitable for microarray hybridization. Fully genotyped reference DNA is also provided for use with single-nucleotide polymorphism (SNP) microarray hybridizations.

The SureLabel32SNP [dUTP] FLS consists of three parts (Table 1). For complete details, see the *Contents* section.

The SureLabel32SNP [dUTP] FLS is included in the CytoChip Oligo SNP Pack (Catalog No. PR-11-448006-PK) and is suitable for 32 labeling reactions.

Supply

The SureLabel32SNP [dUTP] FLS Part 1 is supplied frozen (-15 to -20°C) in a single box. The box is labeled with product name, catalog number, quantity, production lot number, storage conditions, and expiration date.

The Fluorescent Labeling System [dUTP] Part 2 and SureLabel32SNP [dUTP] FLS Part 3 are supplied at ambient temperature. The boxes are labeled with product name, catalog number, quantity, production lot number, storage conditions, and expiration date.

Storage

Upon receipt, the SureLabel32SNP [dUTP] FLS Part 1 should be stored at -20°C in a non–frost-free freezer until required.

Upon receipt, the Fluorescent Labeling System [dUTP] Part 2 and the SureLabel32SNP [dUTP] FLS Part 3 should be stored at ambient temperature. After it is prepared, 10X blocking agent should be stored at -20°C.

Technical Specifications

Restriction enzymes *Alu* I and *Rsa* I are provided in the kit with buffer for the digestion of genomic DNA prior to fluorescent labeling, an essential step in the laboratory protocol when using CytoChip Oligo SNP microarrays.

During labeling, random primers (9-mers) are annealed to the denatured DNA template and extended by exonuclease-free Klenow fragment in the presence of Cy-dUTP conjugates. This reaction produces sensitive, fluorescent Cy-DNA probes for hybridization to the microarray slide.

The Human Reference DNA supplied in the kit is fully genotyped reference DNA that should be digested at the same time as the test DNA sample, prior to labeling and hybridization. Analysis of the array in BlueFuse® Multi software requires a genotype file for the specific reference DNA used in the hybridization. For these reference DNA genotype files, see the *Downloads* section at www.cambridgebluegnome.com/account-login.

The quantities of reagents supplied in the SureLabel32SNP [dUTP] FLS are sufficient for 32 standard labeling reactions, 16 hybridizations.

For full laboratory protocols, refer to the CytoChip Oligo Reference Manual and the CytoChip Oligo Summary Protocol.

Quality Control

Each lot of SureLabel32SNP [dUTP] FLS kits is functionally tested in CytoChip Oligo labeling and hybridization. Performance is measured against absolute thresholds and historical data. Metrics include digestion, yield, dye incorporation, signal amplitude, autosomal $\log_2$ ratio noise, XY chromosome $\log_2$ ratio, and % of high-confidence SNPs.

Table 1: SureLabel32SNP [dUTP] FLS Contents

Description	Item No.	Contents	Storage
SureLabel32SNP [dUTP] FLS Part 1	15043144	Reagents for DNA digestion Reagents for labeling reactions Male and female Human reference DNA	-20°C
Fluorescent Labeling System [dUTP] Part 2	15043142	Hi-RPM hybridization buffer Blocking agent	Ambient temperature
SureLabel32SNP [dUTP] FLS Part 3	15043146	DNA purification columns	Ambient temperature

AGAATGATAACAGTAACACACTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACCGTCTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAAC
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CGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACCGTGCAACGAAAAGAATGATAACAGTA

Contents

See Table 2 for a complete list of kit contents and part numbers.

Safety Information

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

Additional Documents

Additional documents available for download include:

- CytoChip Oligo Reference Manual
- CytoChip Oligo Summary Protocol
- Genotype files for the human reference DNAs

Ordering Information

Product	Catalog No.
SureLabel32SNP [dUTP] Fluorescent Labeling System (32 reactions)	PR-30-413437-00

Table 2: SureLabel32SNP [dUTP] FLS Contents

Part No.	Description	No. Rxns[a]	Part No.	Description	Size
15043144	SureLabel32SNP [dUTP] FLS Part 1	32 (16 hybs.)	5190-3389	Cyanine 3-dUTP	75 µl
			5190-3390	Cyanine 5-dUTP	75 µl
			930437-51	Exo (-) Klenow	39 µl
			930437-52	Random Primer	180 µl
			930437-53	5X gDNA Reaction Buffer	345 µl
			930437-54	10X dNTPs	180 µl
			930437-55	Nuclease-Free Water	1,000 µl
			930437-56	Alu I (10 U/ µl)	28 µl
			930437-57	Rsa I (10 U/ µl)	28 µl
			930437-58	10X Restriction Enzyme Buffer	84 µl
			930437-59	BSA	15 µl
			930437-60	Human Reference DNA Female	125 µl
			930437-61	Human Reference DNA Male	125 µl
15043142	Fluorescent Labeling System [dUTP] Part 2	32 (16 hybs.)	930101-14	2X Hi-RPM buffer	4,600 µl
			930101-15	10X Blocking Agent, lyophilized pellet	[a]
15043146	SureLabel32SNP [dUTP] FLS Part 3	32 (16 hybs.)	—	DNA Purification Columns (Amicon)	–

a. Reconstitute with 900 µl Nuclease-Free Water

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AGAATGATAACAGTAACACACTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACCGTCTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAAC
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