A Sysmex Group Company

CytoCell

Satellite Enumeration Probes

REF: LPE xxxR/G-A

Analyte Specific Reagent: Analytical and performance characteristics are not established.

Fluorescence *In Situ* Hybridisation (FISH) is a technique that allows DNA sequences to be detected on metaphase chromosomes or in interphase nuclei from fixed cytogenetic samples. The technique uses DNA probes that hybridise to entire chromosomes or single unique sequences, and serves as a powerful adjunct to classic cytogenetics. Recent developments have meant that this valuable technique can now be applied as an essential tool in prenatal, haematological and pathological chromosomal analysis. Target DNA, after fixation and denaturation, is available for annealing to a similarly denatured, fluorescently labelled DNA probe, which has a complementary sequence. Following hybridisation, unbound and non-specifically bound DNA probe is removed and the DNA is counterstained for visualisation. Fluorescence microscopy then allows the visualisation of the hybridised probe on the target material.

Probe Specification
Satellite probes are specific for human chromosomes and are highly repeated human DNA sequences found in the centromere, pericentromeric or heterochromatic block of each of the 24 chromosomes. The probes are directly labelled with either a red or a green fluorophore. For detailed probe specifications refer to Table 1.

Table 1: Probe Specifications

Chr	Catalogue Number*	Locus	Chromosome Region	DNA Class
1	LPE 001R/G-A	D1Z1	1q12	satellite III
2	LPE 002R/G-A	D2Z2	2p11.1-q11.1	α-satellite
3	LPE 003R/G-A	D3Z1	3p11.1-q11.1	α-satellite
4	LPE 004R/G-A	D4Z1	4p11.1-q11.1	α-satellite
1/5/19	LPE 005R/G-A	D1Z7 D5Z2 D19Z3	1p11.1-q11.1 5p11.1-q11.1 19p11.1-q11.1	α-satellite
6	LPE 006R/G-A	D6Z1	6p11.1-q11.1	α-satellite
7	LPE 007R/G-A	D7Z1	7p11.1-q11.1	α-satellite
8	LPE 008R/G-A	D8Z2	8p11.1-q11.1	α-satellite
9	LPE 009R/G-A	D9Z3	9q12	satellite III
10	LPE 010R/G-A	D10Z1	10p11.1-q11.1	α-satellite
11	LPE 011R/G-A	D11Z1	11p11.1-q11.1	α-satellite
12	LPE 012R/G-A	D12Z3	12p11.1-q11.1	α-satellite
13/21	LPE 013R/G-A	D13Z1 D21Z1	13p11.1-q11.1 21p11.1-q11.1	α-satellite
14/22	LPE 014R/G-A	D14Z1 D22Z1	14p11.1-q11.1 22p11.1-q11.1	α-satellite
15	LPE 015R/G-A	D15Z4	15p11.1-q11.1	α-satellite
16	LPE 016R/G-A	D16Z2	16p11.1-q11.1	α-satellite
17	LPE 017R/G-A	D17Z1	17p11.1-q11.1	α-satellite
18	LPE 018R/G-A	D18Z1	18p11.1-q11.1	α-satellite
20	LPE 020R/G-A	D20Z1	20p11.1-q11.1	α-satellite
X	LPE 0XR/G-A	DXZ1	Xp11.1-q11.1	α-satellite
Y	LPE 0YcR/G-A	DYZ3	Yp11.1-q11.1	α-satellite
Y	LPE 0YqR/G-A	DYZ1	Yq12	satellite III

***R specifies a red label and G specifies a green label**

Each probe vial contains only one of the probes from the range of directly labelled human alpha and classical satellite probes.

Materials Provided
Probe: 15µl per vial
The probe is produced in a concentrated form. It is labelled with either a red or a green fluorophore. The probe is provided in hybridisation solution (Formamide; Dextran Sulphate; SSC).

Warnings and Precautions
1. For professional use only.
2. Wear gloves when handling DNA probes.
3. Probe contains formamide, which is a teratogen; do not breathe fumes or allow skin contact. Wear gloves, a lab coat, and handle in a fume hood. Upon disposal, flush with a large volume of water.
4. All hazardous materials should be disposed of according to your institution's guidelines for hazardous waste disposal.

Storage and Handling
The probe should be stored between -25ºC to -15ºC in a freezer until the expiry date indicated on the kit label. The probe vial must be stored in the dark.

Known Cross-Reactivity
1. The chromosome 1 satellite III probe may show faint cross-hybridisation to the pericentromeric region of chromosome 9.
2. The chromosome 2 α-satellite probe may show faint cross-hybridisation to the centromere of an F group chromosome.
3. The chromosome 4 α-satellite probe may show faint cross-hybridisation to the centromeric region of a C group chromosome.

Additional Information
For additional product information please contact the CytoCell Technical Support Department.
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