



A Sysmex Group Company



Subtelomere Specific Probes

REF: LPT 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

The subtelomere specific probe range identifies 41 of the 46 human telomeres as it excludes the p-arm telomeres of the acrocentric chromosomes. The X and Y chromosome p-arms share the same subtelomere clone (839D20) as do the X and Y q-arms (C8.2/1 and 225F6) due to the pseudoautosomal nature of these regions. 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

Probe	Catalogue Number	Clone name	Marker	Accession Number (if available)
1p	LPT 01PR/G-A	CEB108	RH120573	-
1q	LPT 01QR/G-A	160H23	GDB:315525	D1S3739
2p	LPT 02PR/G-A	dJ892G20	D2S2983	D2S2983
2q NP	LPT 02QNPR/G-A	172113	D2S447	D2S2986
3p	LPT 03PR/G-A	dJ1186B18	D3S4559	D3S4559
3q	LPT 03QR/G-A	196F4	D3S1272	D3S1272
4p	LPT 04PR/G-A	36P21	D4S3360	D4S3360
4q	LPT 04QR/G-A	963K6	D4S139	-
5p	LPT 05PR/G-A	189N21	RH120167	-
5q	LPT 05QR/G-A	240G13	D5S2907	D5S2907
6p	LPT 06PR/G-A	62111	STS-H99640	-
6q	LPT 06QR/G-A	57H24	D6S2522	D6S2522
7p	LPT 07PR/G-A	109a6	RH104000	RH104000
7q	LPT 07QR/G-A	2000a5	RH48601	RH48601
8p	LPT 08PR/G-A	dJ580L5	RH40619	D8S2333
8q	LPT 08QR/G-A	489D14	D8S595	D8S1925
9p	LPT 09PR/G-A	43N6	RH65569	RH65569
9q	LPT 09QR/G-A	112N13	D9S2168	D9S2168
10p	LPT 10PR/G-A	306F7	STS-N35887	D10S2488
10q	LPT 10QR/G-A	137E24	RH44494	RH44494
11p	LPT 11PR/G-A	dJ908H22	D11S2071	D11S2071
11q	LPT 11QR/G-A	dJ770G7	D11S4974	D11S4974
12p	LPT 12PR/G-A	496A11	D12S200	D12S200
12q	LPT 12QR/G-A	221K18	RH81094	D12S2343
13q	LPT 13QR/G-A	163C9	D13S1825	D13S1825
14q	LPT 14QR/G-A	dJ820M16	D14S1420	D14S1420
15q	LPT 15QR/G-A	154P1	D15S936	D15S936
16p	LPT 16PR/G-A	12114	SHGC-16929(UCSC)	D16S3400
16q	LPT 16QR/G-A	240G10	RH80305	RH80305
17p	LPT 17PR/G-A	202L17 2111b1	D17S2199	D17S2199
17q	LPT 17QR/G-A	362K4	362K4 For and Rev	D17S2200
18p	LPT 18PR/G-A	74G18	D18S552	D18S552
18q	LPT 18QR/G-A	dJ964M9	D18S1390	D18S1390
19p	LPT 19PR/G-A	dJ546C11	D19S676E	-
19q	LPT 19QR/G-A	F21283	RH102404	RH102404
20p	LPT 20PR/G-A	dJ1061L1	D20S210	D20S502
20q	LPT 20QR/G-A	81F12	RH10656	-
21q	LPT 21QR/G-A	63H24	D21S1446	D21S1575
22q	LPT 22QR/G-A	99K24 N85a3	D22S1726	D22S1726
XpYp	LPT XYPR/G-A	839D20	DXYS129	DXYS129
**				
XqYq	LPT XYQR/G-A	225F6 C8.2/1	DXYS154 SYBL1	Z43206 -

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

**This probe is specific for the p-arms of both X and Y.

***This probe is specific for q-arms of both X and Y.

Each probe vial contains only one of the probes from the range of directly labelled subtelomere specific 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

- For professional use only.
- Wear gloves when handling DNA probes.
- 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.
- All hazardous materials should be disposed of according to your institution's guidelines for hazardous waste disposal.
- Users of this product must be capable of visually distinguishing between the colours red, blue and green.

Storage and Handling

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

Known Cross-Reactivity

Probe	Catalogue Number	Known cross-hybridisations
8p	LPT08PR/G	8p with 1p and 3q
9q	LPT09QR/G	9q with 10p, 16p, 18p and XqYq
11p	LPT11PR/G	11p with 17p
11q	LPT11QR/G	11q with 12q (interstitial)
12p	LPT12PR/G	12p with 6p and 20q
14q	LPT14QR/G	14q with 16 centromere
17q	LPT17QR/G	17q with 1p, 5q, 6q and 11p
19p	LPT19PR/G	19p with 20q
20q	LPT20QR/G	20q with 6p
22q	LPT22QR/G	22q with 2q (interstitial)

Additional Information

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

T: +44 (0)1223 294048

E: techsupport@cytozell.com

W: www.ogt.com

Patents and Trademarks

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CytoCell Ltd.

Oxford Gene Technology,
418 Cambridge Science Park,
Milton Road,
Cambridge, CB4 0PZ, UK
T: +44(0)1223 294048
F: +44(0)1223 294986
E: probes@cytozell.com
W: www.ogt.com