

ZytoLight® Aneuploidy Panel 18/X/Y and 13/21

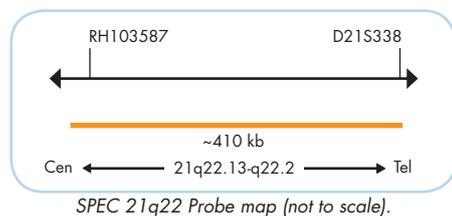
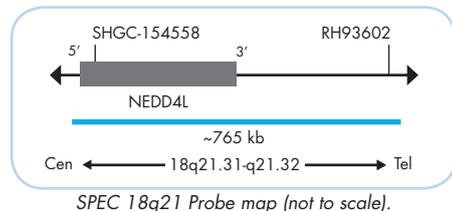
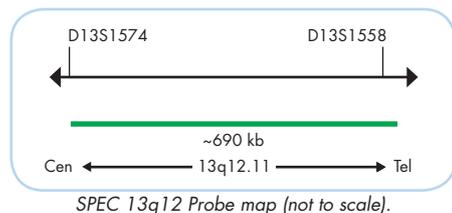


Background

The ZytoLight® Aneuploidy Panel 18/X/Y and 13/21 is designed for chromosome enumeration of the chromosomes 13, 18, 21, X, and Y.

Trisomies of the autosomes 13, 18, or 21 (Down Syndrome) are common genomic aberrations. Aberrant numbers of the gonosomes X and Y are resulting in disorders of sex development (DSD). Diseases such as Ulrich-Turner-Syndrome (45, X) or Triple X Syndrome (47, XXX) may cause severe developmental and metabolic disorders. The prevalence of chromosomal abnormalities detectable in the newborn, including chromosome 13, 18, 21, X, and Y, is about 0.92%.

References
 Gillenberg C, (1998) J Autism Dev Disord 28: 415-25.
 Jacobs PA, et al. (1992) J Med Genet 29: 103-8.



Probe Description

The ZytoLight® Aneuploidy Panel 18/X/Y and 13/21 is a set comprising two separate probes:

- ZytoLight® SPEC 18/CEN X/Y Triple Color Probe (Prod. No. Z-2163-200)
- ZytoLight® SPEC 13/21 Dual Color Probe (Prod. No. Z-2164-200)

The ZytoLight® SPEC 18/CEN X/Y Triple Color Probe (PL119) is composed of:

- ZyBlue (excitation 418 nm/emission 467 nm) labeled polynucleotides (~37.0 ng/µl), which target sequences mapping in 18q21.31-q21.32** (chr18:55,690,725-56,455,119).
- ZyGreen (excitation 503 nm/emission 528 nm) labeled polynucleotides (~4.5 ng/µl), which target sequences mapping in Xp11.1-q11.1 specific for the alpha satellite centromeric region DXZ1 of chromosome X.
- ZyOrange (excitation 547 nm/emission 572 nm) labeled polynucleotides (~1.5 ng/µl), which target sequences mapping in Yp11.1-q11.1 specific for the alpha satellite centromeric region DYZ3 of chromosome Y.
- Formamide based hybridization buffer

The ZytoLight® SPEC 13/21 Dual Color Probe (PL120) is composed of:

- ZyGreen (excitation 503 nm/emission 528 nm) labeled polynucleotides (~10.0 ng/µl), which target sequences mapping in 13q12.11** (chr13:20,200,365-20,892,494).
- ZyOrange (excitation 547 nm/emission at 572 nm) labeled polynucleotides (~4.5 ng/µl), which target sequences

mapping in 21q22.13-q22.2** (chr21:39,372,983-39,784,773).

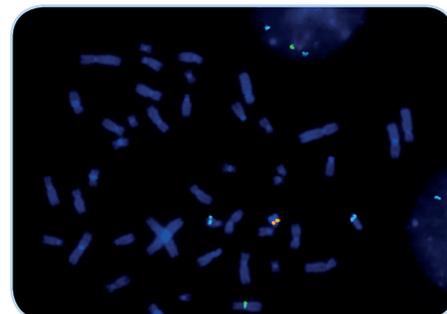
- Formamide based hybridization buffer

Results

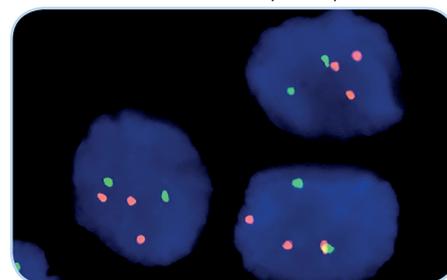
In an interphase nucleus of a normal cell using the ZytoLight® SPEC 13/21 Dual Color Probe, two green and two orange signals are expected.

In an interphase nucleus of a normal cell, using the ZytoLight® SPEC 18/CEN X/Y Triple Color Probe, two blue signals are expected. Two green signals are expected in a normal female cell, or one single green and one single orange signal is expected in a normal male cell.

Other signal patterns indicate numerical aberration of the respective chromosomes.



SPEC 18/CEN X/Y Triple Color Probe hybridized to interphase nuclei of normal male cells and to chromosomes of a metaphase spread.



SPEC 13/21 Dual Color Probe hybridized to interphase cells with trisomy of chromosome 21.

Prod. No.	Product	Label	Tests* (Volume)
Z-2279-20	ZytoLight Aneuploidy Panel 18/X/Y and 13/21		20 (200 µl)
	Incl. ZytoLight SPEC 18/CEN X/Y Triple Color Probe, 0.2 ml (Z-2163-200); ZytoLight SPEC 13/21 Dual Color Probe, 0.2 ml (Z-2164-200)		
Related Products			
Z-2028-5	ZytoLight FISH-Tissue Implementation Kit		5
	Incl. Heat Pretreatment Solution Citric, 150 ml; Pepsin Solution, 1 ml; Wash Buffer SSC, 210 ml; 25x Wash Buffer A, 50 ml; DAPI/DuraTect-Solution, 0.2 ml		
Z-2028-20	ZytoLight FISH-Tissue Implementation Kit		20
	Incl. Heat Pretreatment Solution Citric, 500 ml; Pepsin Solution, 4 ml; Wash Buffer SSC, 560 ml; 25x Wash Buffer A, 100 ml; DAPI/DuraTect-Solution, 0.8 ml		
Z-2099-20	ZytoLight FISH-Cytology Implementation Kit		20
	Incl. Cytology Pepsin Solution, 4 ml; 20x Wash Buffer TBS, 50 ml; 10x MgCl ₂ , 50 ml; 10x PBS, 50 ml; Cytology Stringency Wash Buffer SSC, 500 ml; Cytology Wash Buffer SSC, 500 ml; DAPI/DuraTect-Solution, 0.8 ml		

* Using 10 µl probe solution per test. labeled products are only available in certain countries. All other countries research use only! Please contact your local dealer for more information.

**According to Human Genome Assembly GRCh37/hg19