ITALIA

Empowering Personalized Cancer Treatment

D13S25/D13S1009 DNA-FISH Probe

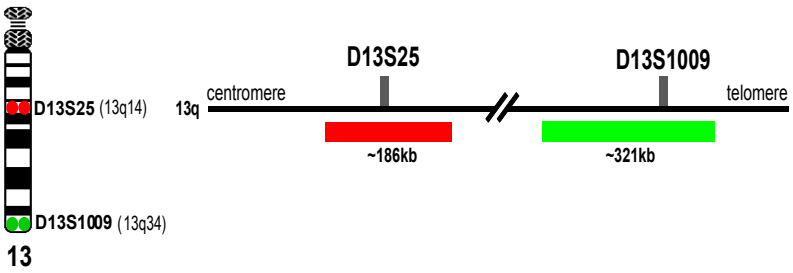
Two Color, Enumeration Probe CE

Ref: 14-009

D13S25/ D13S1009

Intended Use

The D13S25/D13S1009 DNA-FISH Probe is designed to detect loss of the D13S25 locus on chromosome 13q14 relative to the control marker D13S1009 on chromosome 13q34 by fluorescence *in situ* hybridization (FISH). The deletion of D13S25, a locus distal to the RB1 gene, has been detected in B-cell chronic lymphocytic leukemia (B-CLL),[1] in multiple myeloma (MM),[2,3] and rarely in a variety of non-Hodgkin lymphomas (NHL).[4] Deletion of 13q14 has a strong prognostic value correlating with slower disease progression and better prognosis in B-CLL patients,[5] whereas in MM patients it is associated with a higher stage of disease and shorter survival.[6]



Schematic of the D13S25/D13S1009 DNA-FISH Probe:

Horizontal red and green bars indicate the region covered by the probes (approximate to scale, NCBI 36.1/HG18/2006). The directly labeled D13S25 probe (red) spans the D13S25 locus. The directly labeled D13S1009 probe (green) hybridizes to the region spanning the locus and serves as the control.

Signal Interpretation

In normal diploid interphase nuclei and metaphase chromosomes, the probe generates two red and two green signals corresponding to the two normal homologous chromosomes 13 (Figure 1). In cells with deletion of an entire chromosome 13, the number of red (D13S25) and green (D13S1009) signals will decrease. In cells with interstitial deletion of chromosome 13, in which the D13S25 locus is deleted and the D13S1009 locus is retained, one red (D13S25) and two green (D13S1009) signals would be observed (Figure 2). If unexpected signal patterns are observed, hybridization to metaphase chromosomes is recommended.

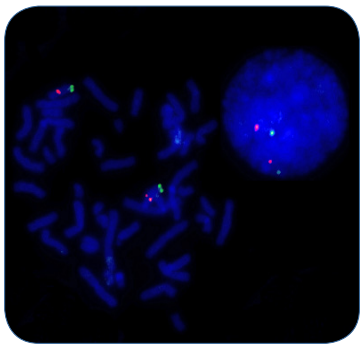


Figure 1: Normal diploid metaphase and interphase nucleus (from normal peripheral blood specimen) with 2 red (D13S25) and 2 green (D13S1009) signals.

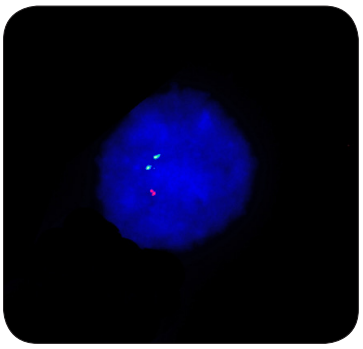


Figure 2: Interphase nuclei with 1 red (D13S25), 2 green (D13S1009) signals.

References

1. Nelson, B. P., et al. Am J Clin Pathol, 2007. 128(2):323-32.
2. Chen, L., et al. Exp Oncol, 2007. 29(2):116-20.
3. Terpos, E., et al. Leuk Lymphoma, 2006. 47(5):803-14.
4. Dierlamm, J., et al. Cancer Genet Cytogenet, 2000.120(1):1-5.
5. Dal Bo, M., et al., Genes Chromosomes Cancer, 2011. 50(8): p. 633-43.
6. Kroger, N., et al., Blood, 2004. 103(11): p.4056-61.

Fluorescence Microscopy Filter Requirements

Fluorophore	Excitation $_{max}$	Emission $_{max}$
Green	496 nm	520 nm
Red	580 nm	603 nm
DAPI	360 nm	460 nm

Instructions for use are available at www.cancergeneticsitalia.com

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