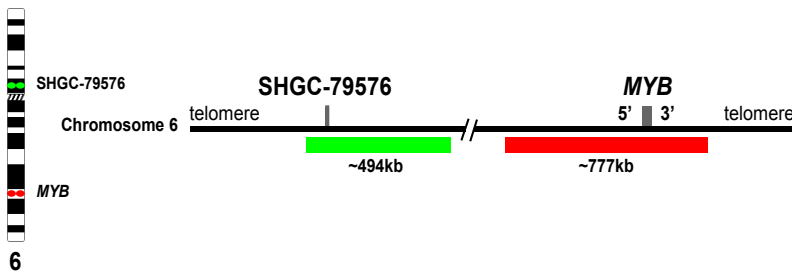


Intended Use

The MYB/SHGC-79576 DNA-FISH Probe is designed to detect copy number changes of the MYB locus located on 6q23 relative to a 6p12 control locus, using fluorescence *in situ* hybridization (FISH).^[1] MYB gene is involved in duplications, translocation, and deletions in a variety of cancer types. Loss of MYB has been observed in ~5% of chronic lymphocytic leukemia (CLL) cases^[2] and has been associated with a poor prognosis in CLL cases.^[2] In breast tumors, the gain of the MYB gene has been observed in ~ 30% of hereditary BRCA1 positive breast tumors.^[3]



Schematic of the MYB/SHGC-79576 DNA-FISH Probe:

Horizontal red and green bars indicate the regions covered by the probes (approximate to scale, GRCh37/Hg19/2009). The directly labeled MYB (red) probe spans the locus and the SHGC-79576 (green) serves as a control.

Signal Interpretation

In normal diploid metaphase and interphase nucleus, two red and two green signals would be observed corresponding to the two normal homologous chromosome 6 (Figures 1 and 2). Upon interstitial deletion of 6q23, in which the MYB gene is deleted and the 6p12 band remains, one red and two green signals would be observed, which corresponds to the MYB gene and two remaining 6p12 regions. Upon deletion of an entire chromosome 6, a single red and green signal would be observed, which corresponds to the remaining chromosome 6. It is recommended to confirm variant pattern or atypical signal patterns by metaphase analysis whenever possible.

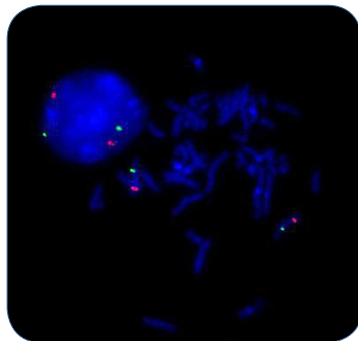


Figure 1: Normal diploid metaphase and interphase nucleus (from normal peripheral blood specimen) with 2 red (MYB) and 2 green (SHGC-79576) signals.

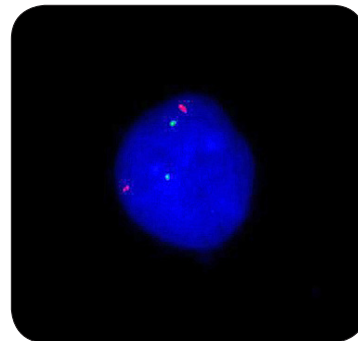


Figure 2: Normal diploid interphase nucleus (from bone marrow specimen) with 2 red (MYB) and 2 green (SHGC-79576) signals.

References

1. Barletta, C., et al., Science, 1987. 235(4792): p. 1064-7.
2. Reddy, K. S. Br J Haematol, 2006. 132(6):p.705-22.
3. Kauraniemi, P., et al. Cancer Res, 2000. 60(19):p.5323-8.

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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