ITALIA

Empowering Personalized Cancer Treatment

IGH/MALT1 DNA-FISH Probe

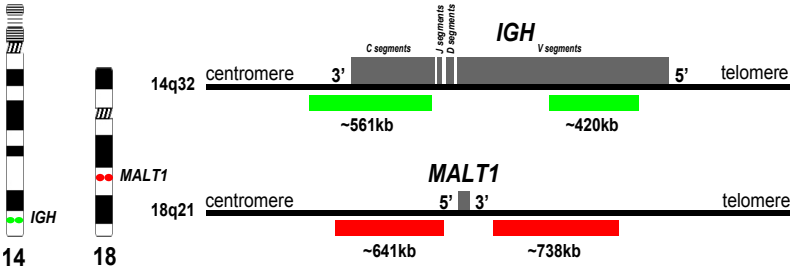
Two Color, Two Fusion Translocation Probe CE

Ref: 17-004

IGH/ MALT1

Intended Use

The *IGH/MALT1* DNA-FISH probe is designed to detect the translocation between the *IGH* gene located at 14q32 and the *MALT1* gene located at 18q21 by fluorescence *in situ* hybridization (FISH), designated as t(14;18)(q32;q21). The rearrangement of *IGH/MALT1* has been observed in 10-20% of mucosa-associated lymphoid tissue (MALT) lymphoma, predominantly occurring in liver, skin, and ocular adnexa. [1-3] By conventional cytogenetics, t(14;18)(q32;q21) involving the *IGH* and *MALT1* genes is indistinguishable from the t(14;18)(q32;q21) involving the *IGH* and *BCL2* genes (the hallmark of follicular lymphoma). These translocations can be distinguished by FISH, using the respective DNA-FISH probes.



Schematic of the *IGH/MALT1* DNA-FISH Probe:

Horizontal red and green bars indicate the regions covered by the probes (approximate to scale, GRCh37/Hg19/2009). The directly labeled *IGH* (green) and *MALT1* (red) probes flank the breakpoints in the *IGH* and *MALT1* genes, respectively.

Signal Interpretation

In normal diploid metaphase and interphase nucleus, two green and two red signals would be observed corresponding to the two normal homologous chromosomes 14 and 18, respectively (Figures 1 and 2). Upon translocation, the most commonly observed pattern is one green and one red signal, representing the normal chromosomes 14 and 18, and two fusion signals (red/green or yellow) representing the two translocated chromosomes. It is recommended to confirm variant pattern or atypical signal patterns by metaphase analysis whenever possible.

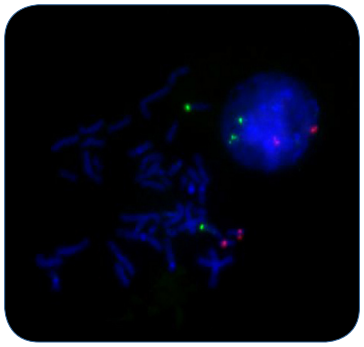


Figure 1: Normal diploid metaphase and interphase nucleus (from normal peripheral blood specimen) with 2 red (*MALT1*) and 2 green (*IGH*) signals.

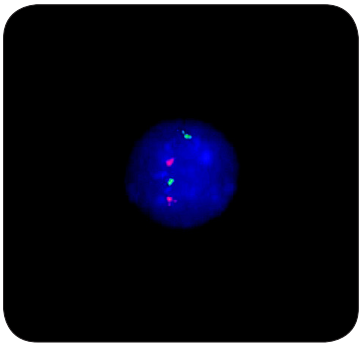


Figure 2: Normal diploid interphase nucleus (from bone marrow specimen) with 2 red (*MALT1*) and 2 green (*IGH*) signals.

Fluorescence Microscopy Filter Requirements

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

References

1. Streubel, B., et al. Blood, 2003. 101(6):p.2335-9.
2. Streubel, B., et al. Leukemia, 2004. 18(10):p.1722-6.
3. Murga Penas, E.M, et al., Leukemia, 2003. 17(11): p. 2225-9.

Instructions for use are available at www.cancergeneticsitalia.com

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