ITALIA
Empowering Personalized Cancer Treatment

API2/MALT1 DNA-FISH Probe

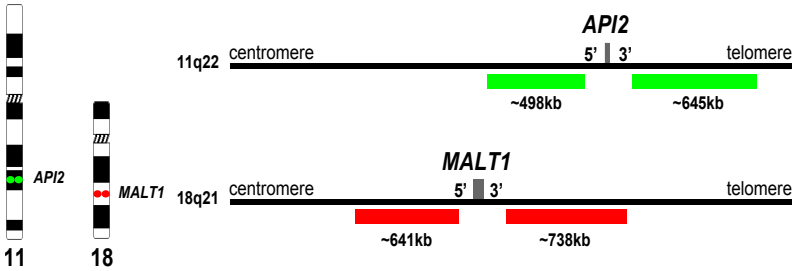
Two Color, Two Fusion Translocation Probe CE

Ref: 17-001

API2/ MALT1

Intended Use

The *API2/MALT1* DNA-FISH probe is designed to detect the translocation between the *API2* gene located at 11q21 and the *MALT1* gene located at 18q21 using fluorescence *in situ* hybridization (FISH).[1] The translocation between the *API2* and *MALT1* gene, designated as t(11;18)(q21;q21), can be detected in around 15% of mucosa-associated lymphoid tissue (MALT) lymphomas, but varies in frequency based on primary tumor site.[2] In pulmonal and gastric MALT, t(11;18) is found more frequently (38-53% and 22-24%, respectively) and in these cases is almost always the only detected chromosomal abnormality.[2] When observed in gastric MALT lymphoma, t(11;18) is highly associated with a lack of response to antibiotic *H.pylori* eradication treatment.[3,4]



Schematic of the *API2/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 *API2* (green) and *MALT1* (red) probes flank the breakpoints within the *API2* 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 chromosomes 11 and 18, respectively (Figures 1 and 2). Upon translocation, the most commonly observed pattern is a single green and signal red, representing the normal chromosomes 11 and 18, and two fusion signals (red/green or yellow) representing the translocated chromosomes. It is recommended to confirm variant pattern or atypical signal patterns by metaphase analysis whenever possible.

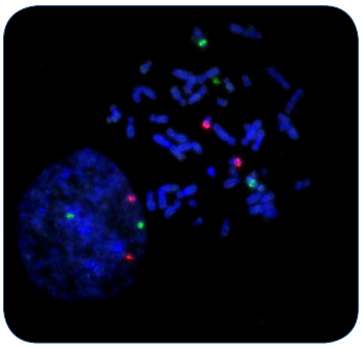


Figure 1: Normal diploid metaphase and interphase nucleus (from normal peripheral blood specimen) with 2 red (*MALT1*) and 2 green (*API2*) signals.

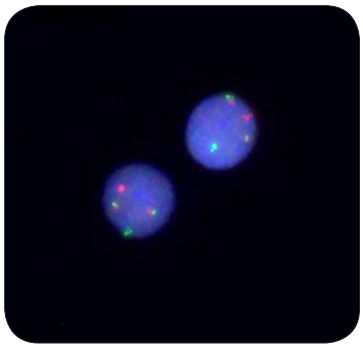


Figure 2: Diploid interphase nuclei (from bone marrow specimen positive for t(11;18)) with 1 red (*MALT1*), 1 green (*API2*), and 2 fusion signals.

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. Dierlamm, J., et al., Blood, 2000. 96(6): 2215-18..
2. Heim, S., and Mitelman, F. (Ed) Cancer Cytogenetics, 2009 (3rd Edition), Wiley-Blackwell, New Jersey. P. 317-320.
3. Nakamura, T., et al. J Gastroenterol, 2003. 38(10): p.921-9.

Instructions for use are available at www.cancergeneticsitalia.com

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