ITALIA

Empowering Personalized Cancer Treatment

IGH/BCL2 DNA-FISH Probe

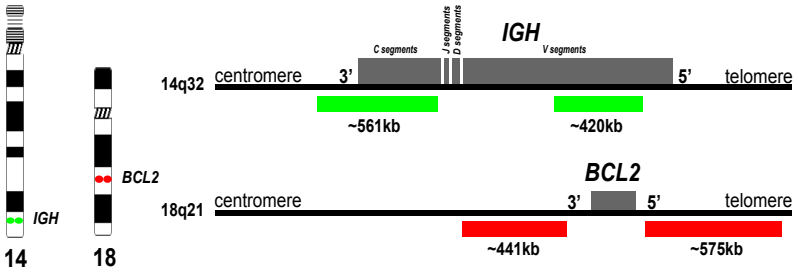
Two Color, Two Fusion Translocation Probe CE

Ref: 18-001

IGH/ BCL2

Intended Use

The *IGH/BCL2* DNA-FISH Probe is designed to detect the translocation between the *IGH* gene located on 14q32 and the *BCL2* gene located on 18q21, using fluorescence *in situ* hybridization (FISH). The translocation between the *IGH* and *BCL2* gene is designated as t(14;18)(q32;q21) and is the hallmark of follicular lymphoma (FL). The t(14;18) translocation is more frequent in lower FL grades, such as FL grades 1 and 2 (88%), than in higher grades, such as FL 3b (4-13%).[1] The translocation is also detected in 30% of diffuse large B-cell lymphoma (DLBCL) cases, but is less frequently detected in other non-Hodgkin lymphomas.[1,2] By conventional cytogenetics, the t(14;18)(q32;q21) translocation that involves the *IGH* and *BCL2* genes is indistinguishable from the t(14;18)(q32;q21) translocation that involves the *IGH* and *MALT1* genes. Such translocations can be distinguished by using the respective DNA-FISH probes.[1]



Schematic of the *IGH/BCL2* 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 *BCL2* (red) probes flank the breakpoints in the *IGH* and *BCL2* 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 a single green and 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.

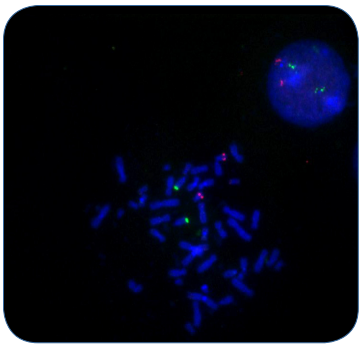


Figure 1: Normal diploid metaphase and interphase nucleus (from normal peripheral blood specimen) with 2 red (*BCL2*) and 2 green (*IGH*) signals.

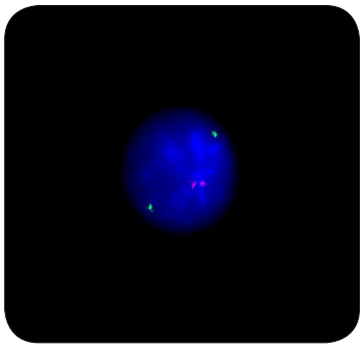


Figure 2: Normal diploid interphase nucleus (from bone marrow specimen) with 2 red (*BCL2*) and 2 green (*IGH*) signals.

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. Heim, S., Mitelman, F. (Ed). Cancer Cytogenetics, 2009 (3rd Edition). Wiley-Blackwell, New Jersey. P. 297-358.
2. Fan, Y.S., Rizkalla, K. Cancer Genet Cytogenet, 2003. 143(1): p. 73-9.

Instructions for use are available at www.cancergeneticsitalia.com

Cancer Genetics Italia S.r.l.
Viale Luigi Majno, 17
20122 Milano – Italia

www.cancergeneticsitalia.com
support@cancergeneticsitalia.com

For *in vitro* diagnostic and professional use only.

IVD/18-001, v.07.19.12