

## ZytoDot® 2C SPEC BCL2 Break Apart Probe

### Background

The ZytoDot® 2C SPEC BCL2 Break Apart Probe is designed to detect translocations involving the chromosomal region 18q21.33 harboring the BCL2 gene. The BCL2 (B-cell CLL/lymphoma 2, a.k.a. PPP1R50) gene encodes a mitochondrial membrane protein that regulates apoptosis and is expressed in B-cells.

Translocations involving the BCL2 gene are commonly identified in B-cell lymphomas. In particular, the translocation t(14;18)(q32.3;q21.3) has been identified in about 80% of follicular lymphoma (FL), in 20% to 30% of diffuse large B-cell lymphoma (DLBCL), and rarely in B-cell chronic lymphocytic leukemia (B-CLL).

In FL this translocation is considered to be a cytogenetic hallmark. As a result of this rearrangement, the BCL2 gene is juxtaposed to the IGH (Immunoglobulin heavy chain) locus at 14q32.33 which leads to overexpression of the anti-apoptotic protein BCL2, and finally to progression to lymphoma.

Alternative BCL2 translocations to immunoglobulin light chain genes as well as non-IG translocation events have been reported.

In DLBCL, BCL2 gene overexpression has been implicated in conferring resistance to chemotherapy and has been associated with poor prognosis.

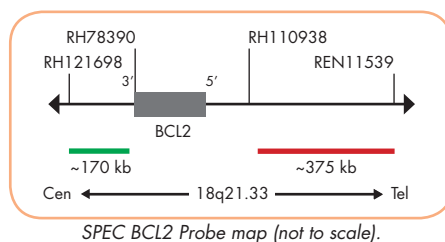
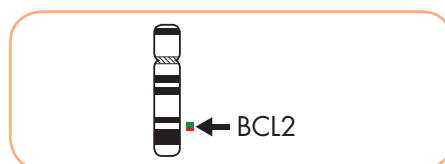
Hence, detection of BCL2 translocations by CISH may be of diagnostic and prognostic relevance.

### References

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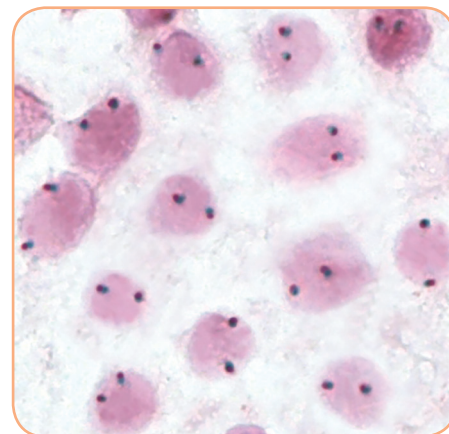
### Probe Description

The ZytoDot® 2C SPEC BCL2 Break Apart Probe is a mixture of a Digoxigenin-labeled and a Dinitrophenyl-labeled probe hybridizing to the 18q21.33 band. The DNP-labeled probe hybridizes distal to the BCL2 gene at 18q21.33, the DIG-labeled probe hybridizes proximal to the BCL2 gene at 18q21.33.



### Results

In an interphase nucleus of a normal cell lacking a translocation involving the 18q21.33 band, using the ZytoDot® 2C CISH Implementation Kit, two red/green fusion signals are expected representing two normal (non-rearranged) 18q21.33 loci. A signal pattern consisting of one red/green fusion signal, one red signal, and a separate green signal indicates one normal 18q21.33 locus and one 18q21.33 locus affected by a translocation.



SPEC BCL2 Break Apart Probe hybridized to normal interphase cells as indicated by two red/green fusion signals per nucleus.

Prod. No.	Product	Label	Tests* (Volume)
C-3073-100	ZytoDot 2C SPEC BCL2 Break Apart Probe CE IVD	Digoxigenin/DNP	10 (100 µl)
<b>Related Products</b>			
C-3044-10	ZytoDot 2C CISH Implementation Kit CE IVD		10
Incl. Heat Pretreatment Solution EDTA, 150 ml; Pepsin Solution, 1 ml; Wash Buffer SSC, 150 ml; 20x Wash Buffer TBS, 50 ml; Anti-DIG/DNP-Mix, 1 ml; HRP/AP-Polymer-Mix, 1 ml; AP-Red Solution A, 0.1 ml; AP-Red Solution B, 4 ml; HRP-Green Solution A, 0.2 ml; HRP-Green Solution B, 4 ml; Nuclear Blue Solution, 4 ml; Mounting Solution (alcoholic), 1 ml			

\* Using 10 µl probe solution per test. CE IVD only available in certain countries. All other countries research use only! Please contact your local dealer for more information.