ZytoDot® 2C SPEC CDKN2A/CEN 9 Probe

CE IVD

Background

The ZytoDot® 2C SPEC CDKN2A/CEN 9 Probe is designed for the detection of CDKN2A deletions frequently observed in most tumor cell lines as well as in primary human malignancies.

The CDKN2A gene, often referred to as p16 or INK4a/ARF, is located in the chromosomal region 9p21.3. Using alternative first exons and an alternative reading frame, the gene encodes for two distinct tumor suppressor proteins p16INK4a and p14ARF, both involved in cell cycle regulation. CDKN2A has been identified as a major susceptibility gene for melanoma. The tumor suppressor gene CDKN2A is inactivated by homozygous deletions with high frequency in a variety of human primary tumors e.g. bladder and renal cell carcinoma, prostate and ovarian adenocarcinoma, non-small cell lung cancer, sarcoma, glioma, mesothelioma, and melanoma. Furthermore, deletion of the CDKN2A gene is found in up to 80% of T-cell acute lymphoblastic leukemia cases and is associated with poor prognosis and relapse of the disease.

References
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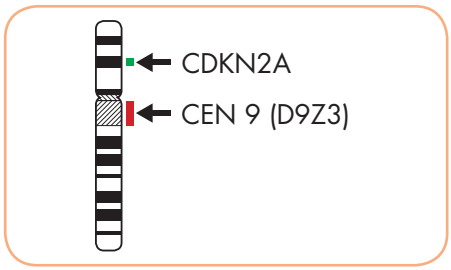
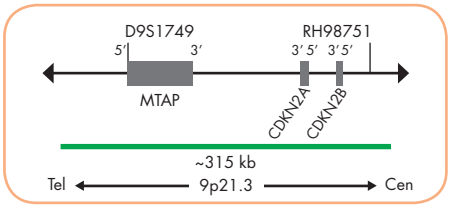
Probe Description

The ZytoDot® 2C SPEC CDKN2A/CEN 9 Probe is composed of:

- Digoxigenin-labeled polynucleotides (~1.1 ng/µl), which target sequences mapping in 9p21.3** (chr9:21,742,629-22,056,853) harboring the CDKN2A gene region.
- Dinitrophenyl-labeled polynucleotides (~1.1 ng/µl), which target sequences mapping in chromosomal region 9q12 specific for the classical satellite III region D9Z3 of chromosome 9.
- Formamide based hybridization buffer



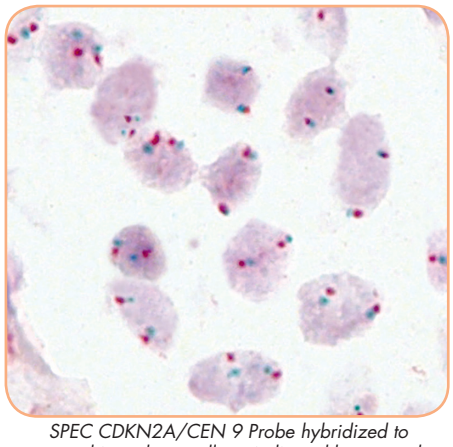
Ideogram of chromosome 9 indicating the hybridization locations.



SPEC CDKN2A Probe map (not to scale).

Results

In a normal interphase nucleus, using the ZytoDot® 2C CISH Implementation Kit two green (CDKN2A) and two red (CEN 9) signals are expected. In a cell with deletion of the CDKN2A gene locus, a reduced number of green signals will be observed. Deletions affecting only parts of the CDKN2A gene might result in a normal signal pattern with green signals of reduced size.



SPEC CDKN2A/CEN 9 Probe hybridized to normal interphase cells as indicated by two red and two green signals per nucleus.

Prod. No.	Product	Label	Tests* (Volume)
C-3067-400	ZytoDot 2C SPEC CDKN2A/CEN 9 Probe CE IVD	DIG/DNP	40 (400 µl)
Related Products			
C-3044-40	ZytoDot 2C CISH Implementation Kit CE IVD Incl. Heat Pretreatment Solution EDTA, 500 ml; Pepsin Solution, 4 ml; Wash Buffer SSC, 560 ml; 20x Wash Buffer TBS, 2x 50 ml; Anti-DIG/DNP-Mix, 4 ml; HRP/AP-Polymer-Mix, 4 ml; AP-Red Solution A, 0.4 ml; AP-Red Solution B, 15 ml; HRP-Green Solution A, 0.8 ml; HRP-Green Solution B, 15 ml; Nuclear Blue Solution, 20 ml; Mounting Solution (alcoholic), 4 ml		40

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

***According to Human Genome Assembly GRCh37/hg19*