



ZytoDot CEN 12 Probe

0.4 ml

For the detection of human **alpha-satellites of chromosome 12**
by chromogenic *in situ* hybridization (CISH)

FOR RESEARCH USE ONLY

Product No.: **C-3014**

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Digoxigenin labeled polynucleotide probe for the detection of human [alpha-satellites of chromosome 12 centromeres](#) by CISH, ready for use

Product description

Content: 0.4 ml (25 reactions of 15 μ l each) [ZytoDot CEN 12 Probe](#) in hybridization buffer. The probe contains labeled polynucleotides (digoxigenylated) which target [alpha-satellite-sequences of the centromere of chromosome 12](#).

Product No.: [C-3014 \(ZytoDot CEN 12 Probe\)](#)

Specificity: The [ZytoDot CEN 12 Probe](#) is designed to be used for the detection of [chromosome 12 alpha-satellites](#) in formalin-fixed, paraffin-embedded tissue or cells by *in situ* hybridization via CISH.

Storage/Stability: The [ZytoDot CEN 12 Probe](#) must be stored at -20°C (short-time storage at 4°C is possible) and is stable through the expiry date printed on the label.

Use: This product is designed for research purposes only and not for use in diagnostic applications.

Safety Precautions: Read the operating instructions prior to use!
Do not use the reagents after the expiry date has been reached!

This product contains formamide and kathon in low concentrations and volumes. Avoid any direct contact with the reagents. Take appropriate protective measures (use disposable gloves, protective glasses, and lab garments). The following risk and safety phrases apply to: R61 May cause harm to the unborn child. S53 Avoid exposure - obtain special instructions before use. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label, where possible)!

If reagents come into contact with skin, rinse skin immediately with copious quantities of water!

A material safety data sheet is available on request for the professional user!

Principle of the method:

The presence of certain nucleic acid sequences in cells or tissues can be detected via *in situ* hybridization, using tagged DNA probes. The hybridization results in duplex formation of specific sequences present in the test object with the tagged DNA probe.

Duplex formation of the Digoxigenin-labeled probe (with sequences of [chromosome 12 alpha-satellites](#) in the test material) can be visualized using a primary (unmarked) anti-Digoxigenin antibody, which is detected by a secondary polymerized enzyme-conjugated antibody. The enzymatic reaction of a chromogenic substrate leads to the formation of a color precipitate that is visualised by light microscopy.

Instructions:

Pre-treatment (dewaxing, proteolysis, post-fixation) should be carried out according to the needs of the user.

Denaturation and hybridization of probe:

1. Vortex the [ZytoDot CEN 12 Probe](#) and pipette 15µl onto individual sample

Distribute dropwise on the whole target area to avoid local concentration of probe. Alternatively, add probe to the center of a coverslip and place coverslip upside down on target area.

2. Avoiding trapped bubbles, cover the samples with a coverslip (22 x 22 mm) and seal with rubber cement (Fixogum)

3. Denature the slides at 94°C ($\pm 2^\circ\text{C}$) for 5 mins, e.g. on a hot plate

4. Transfer the slides to a humidity chamber and incubate overnight at 37°C, e.g. in a heating oven

It is essential that the tissue / cell samples do not dry out during the hybridization step.

Further processing, such as washing, detection, and counter-staining can be completed according to the user's needs. For a particularly user-friendly performance, we recommend the use of a *ZytoDot* CISH system (ZytoVision). These systems were also used for the confirmation of appropriateness of *ZytoDot* CEN 12 Probe.

Results:

In order to judge the specificity of the hybridization signals, every hybridization should be accompanied with controls. In an interphase nucleus of normal cells or cells without aberrations of **chromosome 12** two **chromosome 12**-specific punctual signals appear which can be clearly distinguished from the background. In cells with an aneuploidy of **chromosome 12**, a different signal pattern or cluster is visible in interphases.

Our experts are available to answer your questions.

Literature:

Way JS and Willard (1987) Nucleic Acids Res 15: 7549-69.

Tsukamoto T, et al. (1991) Int J Dev Biol 35: 25-32.

Trademarks:

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