



*ZytoLight*  
SPEC MDM2/CEN 12 Dual Color Probe

0.2 ml

For the detection of the chromosomal region of human MDM2 gene and alpha-satellites of chromosome 12 by fluorescence *in situ* hybridization (FISH)

FOR RESEARCH USE ONLY

Product No.: Z-2013



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Fluorescence labeled polynucleotide probe for the detection of MDM2 gene region and alpha-satellites of chromosome 12 centromeres, ready to use

## Product Description

- Content:** 0.2 ml (20 reactions) SPEC MDM2/CEN 12 Dual Color Probe in hybridization buffer. The probe contains green-labeled polynucleotides (ZyGreen: excitation at 503 nm and emission at 528 nm, similar to FITC), which target sequences adjacent to the MDM2 gene, and orange-labeled polynucleotides (ZyOrange: excitation at 547 nm and emission at 572 nm, similar to Rhodamine), which target alpha-satellite-sequences of the centromere of chromosome 12.
- Product No.:** Z-2013 (SPEC MDM2/CEN 12 Dual Color Probe)
- Specificity:** The SPEC MDM2/CEN 12 Dual Color Probe is designed to be used for the detection of the chromosomal region of MDM2 gene as well as chromosome 12 alpha-satellites in formalin-fixed, paraffin-embedded tissue or cells by *in situ* hybridization via FISH.
- Storage/Stability:** The SPEC MDM2/CEN 12 Dual Color Probe must be stored at -20°C in the dark (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 substances (in low concentrations and volumes) that are harmful to health (formamide). 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: 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 (with sequences of chromosomal region of MDM2 gene and chromosome 12 alpha-satellites in the test material) is directly detected by using the tags of fluorescence-labeled polynucleotides.

## Instructions

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

Denaturation and hybridization of probe:

**1.** Pipette 10  $\mu$ l SPEC MDM2/CEN 12 Dual Color Probe each onto individual samples

*A gentle warming of the probe, as well as using a pipette tip which has been cut off to increase the size of the opening, can make the pipetting process easier. Avoid long exposure of the probe to light.*

**2.** Avoiding trapped bubbles, cover the samples with a coverslip (22 mm x 22 mm). Seal the coverslip, e.g. with a layer of hot glue from an adhesive pistol or rubber cement

**3.** Denature the slides at 75°C ( $\pm 2^\circ\text{C}$ ) for 10 min, e.g. on a hot plate

*Depending upon the age of the sample and variations in the fixation stage, it may be necessary to optimize the denaturing temperature (73°C-77°C).*

**4.** Transfer the slide to a humidity chamber and hybridize overnight at 37°C (e.g. in a hybridization oven)

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

Further processing, such as washing and counter-staining, can be completed according to the user's needs. For a particularly user-friendly performance, we recommend the use of a *ZytoLight* FISH system (ZytoVision). These systems were also used for the confirmation of appropriateness of the SPEC MDM2/CEN 12 Dual Color Probe.

**Our experts are available to answer your questions.**

## Literature

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Alexandrov IA, et al. (1988) *Chromosoma* **96**: 443-53.

Waye JS, Willard HF (1986) *Nucleic Acids Res* **14**: 6915-27.

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