In situ hybridization

ZytoPure® FISH Probes for lung cancer

ZYTOMED SYSTEMS

ZytoPure® FISH Probes

Zytomed Systems is proud to offer the new product line **ZytoPure® FISH**, a reliable and accurate tool for the detection of genetic aberrations in FFPE tissue sections, cell samples and metaphase spreads by fluorescence *in situ* hybridization. **ZytoPure® FISH Probes** display brilliant signals, low background, and an excellent signal to noise ratio. They are intended to be used in combination with the **ZytoPure® FISH Accessory Kit** comprising all reagents necessary for performing a FISH procedure on FFPE sections. The kit contains just 4 reagents and includes a robust and easy to follow protocol. All **ZytoPure® FISH Probes** as well as the **ZytoPure® FISH Accessory Kit** are CE/IVD-labelled.

▶ Background information: ZytoPure® FISH Probes for lung cancer

Rearrangements of receptor tyrosine kinases (RTK) ALK, ROS1, and RET determine clinically important molecular subgroups of non-small cell lung cancer (NSCLC). About 3 % – 5 % of all NSCLCs show an ALK rearrangement, and 1 % - 2 % show ROS1 or RET rearrangements [1]. In all fusion variants, the 3´ TK domain is fused to the promotor regions and 5´ coding regions of the fusion partner. Hence, rearranged RTKs are permanently active, sending proliferation signals into the cell, and thereby promoting non-controlled cell growth. Several very efficient TK inhibitors (TKIs) were launched in recent years [2], and as a consequence the median survival of an ALK positive NSCLC patient treated with two ALK inhibitors is now more than 5 years [3]!
Amplification of the MET gene is the second most common resistance mechanism of lung adenocarcinomas against EGFR TKIs [4]. In addition, primary MET amplification is also found in a small percentage of treatment-naïve lung adenocarcinomas [5].

▶ Product information

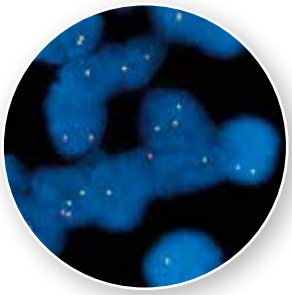
ZytoPure® FISH Probes for lung cancer

Description	Labeling	CE/IVD	Volume	Cat. No.
ALK Break Apart ZytoPure® FISH Probe	green/orange	✓	20 µl	F2C002-002
			100 µl	F2C002-010
ROS1 Break Apart ZytoPure® FISH Probe	orange/green	✓	20 µl	F2C003-002
			100 µl	F2C003-010
RET Break Apart ZytoPure® FISH Probe	orange/green	✓	20 µl	F2C004-002
			100 µl	F2C004-010
MET/CEP7 ZytoPure® FISH Probe	green/orange	✓	20 µl	F2C005-002
			100 µl	F2C005-010

Ancillary Reagents

Description	CE/IVD	Volume	Cat. No.
ZytoPure® FISH Accessory Kit (Pepsin Solution, 4 ml; FISH Pretreatment Buffer, 500 ml; 20x FISH Wash Buffer, 2 x 50 ml; DAPI/Antifade Solution, 800 µl)	✓	1 Kit (20 tests)	FA-Kit1-20
Pepsin Solution	✓	4 ml	FA-001-004
FISH Pretreatment Buffer (rtu)	✓	500 ml	FA-002-500
20x FISH Wash Buffer	✓	50 ml	FA-003-050
DAPI/Antifade Solution	✓	800 µl	FA-004-008
Fixogum (Rubber Cement)	-	50 g	ZY-FX50
		125 g	ZY-FX125

ALK Break Apart ZytoPure® FISH Probe, lung cancer specimen showing solely ALK fusion signals



ALK Break Apart ZytoPure® FISH Probe, lung cancer specimen with ALK translocation, as indicated by single red signals in addition to fusion signals

Human metaphases hybridized with the ROS1 Break Apart ZytoPure® FISH Probe

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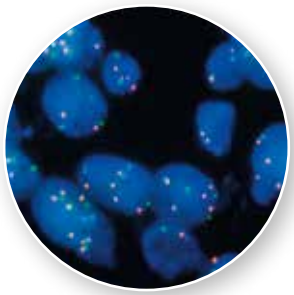
Other ZytoPure® FISH Probes

Description	Labeling	CE/IVD	Volume	Cat. No.
ERBB2/CEP17 ZytoPure® FISH Probe	orange/green	✓	20 µl	F2C001-002
			100 µl	F2C001-010
MDM2/CEP12 ZytoPure® FISH Probe	green/orange	✓	20 µl	F2C006-002
			100 µl	F2C006-010
USP6 Break Apart ZytoPure® FISH Probe	green/orange	✓	20 µl	F2C007-002
			100 µl	F2C007-010
EWSR1 Break Apart ZytoPure® FISH Probe	orange/green	✓	20 µl	F2C008-002
			100 µl	F2C008-010
SS18 Break Apart ZytoPure® FISH Probe	orange/green	✓	20 µl	F2C009-002
			100 µl	F2C009-010
FUS Break Apart ZytoPure® FISH Probe	green/orange	✓	20 µl	F2C010-002
			100 µl	F2C010-010

ZytoPure® is a registered trade mark of Zytomed Systems GmbH, Berlin.

ZytoPure® Fluorochromes

Fluorochrome	Excitation	Emission
PureGreen	498 nm	532 nm
PureOrange	550 nm	576 nm



MET/CEP7 ZytoPure FISH Probe®, lung carcinoma showing amplification of both MET and CEP7

Literature

[1] Thunnissen E *et al.* Virchows Arch 464:347-358, 2014

[2] Ou SH *et al.* Oncologist 17:1351-1375, 2017

[3] Duruisseaux M *et al.* Oncotarget 8:21903-21917, 2017

[4] Savic S, Bubendorf L Arch Pathol Lab Med 140:1323-1330, 2016

[5] Schildhaus HU *et al.* Clin Cancer Res 21:907-915, 2015

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