

Kreatech™ MAF (16q23) / D16Z3 FISH probe

Introduction: MAF gene amplification in primary tumours has been associated with an increased risk of relapse, death, and metastasis, especially bone metastasis, in early-stage breast cancer patients. MAF gene amplification may be considered as an adverse prognostic factor of the disease.

Intended use: The **MAF (16q23) / D16Z3** FISH probe (MAFTEST®) is intended for use in a non-automated semi-qualitative fluorescence in situ hybridization assay to detect amplification involving the MAF gene region at 16q23 in a dual-color assay on formalin fixed paraffin embedded breast cancer tissue sections. The centromere 16 specific centromere repeat probe (D16Z3) is included as control on hybridization efficiency.

The probe is recommended to be used in combination with one of the Kreatech Pretreatment kits providing necessary reagents to perform FISH on various sample types for optimal results (See also www.LeicaBiosystems.com and look for Pretreatment Kits).

Critical region 1 (red): The **MAF (16q23)** gene region FISH probe is direct-labeled with PlatinumBright™550.

Critical region 2 (green): The **D16Z3** control FISH probe is direct-labeled with PlatinumBright495.

Reagent: Kreatech FISH probes are direct-labeled DNA probes provided in a ready-to-use format. Apply 10 µl of probe to a sample area of approximately 22 x 22 mm.

Please refer to the Instructions for Use for the entire Kreatech FISH protocol. Kreatech FISH probes are REPEAT-FREE™ and therefore do not contain C_{ot}-1 DNA. Hybridization efficiency is increased and background, due to unspecific binding, is highly reduced.

Interpretation:

	Normal signal pattern	MAF (16q23) amplification
Expected Signals	2R2G	R ≥ 2.5 copies on average

References:

1. Coleman, R. *et al.* Effect of MAF amplification on treatment outcomes with adjuvant zoledronic acid in early breast cancer: a secondary analysis of the international, open-label, randomised, controlled, phase 3 AZURE (BIG 01/04) trial. *Lancet Oncol.* **18**, 1543–1552 (2017).
2. Coleman, R. E. *et al.* Benefits and risks of adjuvant treatment with zoledronic acid in stage II/III breast cancer. 10 years follow-up of the AZURE randomized clinical trial (BIG 01/04). *J. Bone Oncol.* **13**, 123–135 (2018).
3. Paterson, A. H. G. *et al.* MAF Amplification and Adjuvant Clodronate Outcomes in Early-Stage Breast Cancer in NSABP B-34 and Potential Impact on Clinical Practice. *JNCI Cancer Spectr.* **5**, 2–9 (2021).

Warning and precautions: In case of emergencies check SDS sheets for medical advice. SDS sheets may be obtained by either contacting Leica Technical Support or visiting www.LeicaBiosystems.com. DNA probes contain formamide which is a teratogen; do not inhale or allow skin contact. Wear gloves and a lab coat when handling DNA probes. All materials should be disposed of according to your institution's guidelines for hospital waste disposal.

Reagent Storage and Handling:

Store at 2-8 °C. Reagents should not be used after the expiration date on the vial label.

TECHNICAL SUPPORT

Technical support is available at www.LeicaBiosystems.com or +31 20 6919181 or via e-mail: kreatech.support@leicabiosystems.com.

CUSTOMER SERVICE

Kreatech probes may be ordered through Leica Customer Service +31 20 6919181 or order via email: purchase.orders@leica-microsystems.com.