

## Product Data Sheet

### 3q26 (TERC) FISH Probe

Catalog#: F-TERC-(G,R,A,Y,D)

### Gene Information:

TERC (Telomerase RNA component) encodes for the RNA component of telomerase. TERC RNA serves as a template for telomere replication by telomerase.

### Clinical Relevance:

**Cervical Carcinoma:** Research has indicated that an increased copy number of the TERC gene is a strong predictor of progression from CIN1/CIN2 to CIN3 and invasive carcinoma in cervical lesions. Additional studies have demonstrated that a copy number increase in either 8q24 (MYC) and/or 3q26 (TERC) has the ability to identify which patients with a cervical cytology diagnosis of LSIL are most likely to have or progress to CIN2+ on clinical follow up.<sup>1,2,3</sup>

**Lung Cancer (NSCLC):** Research has shown that increased genomic copy number of TERC has strong association with squamous histology but does not have prognostic impact.<sup>4</sup>

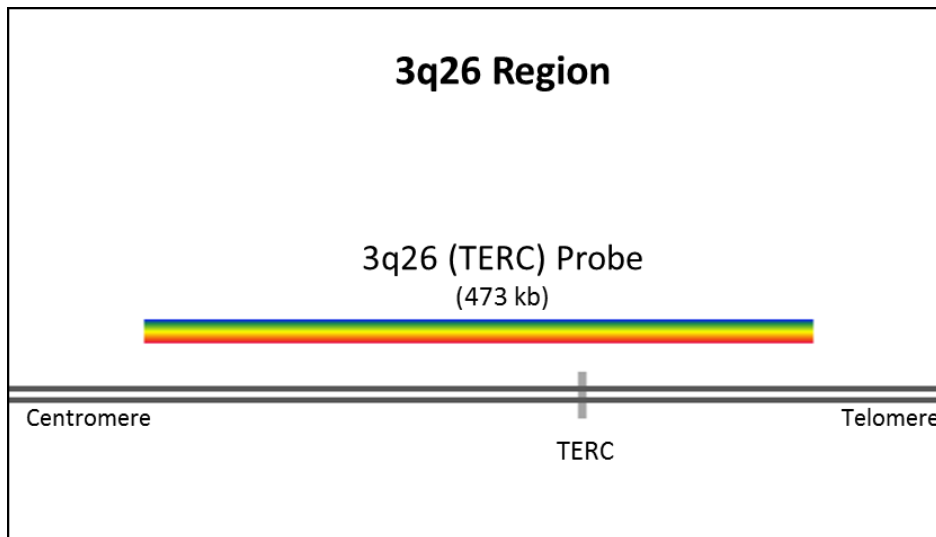
### Probe Specifications:

Probe and target gene boundaries are indicated in relation to proximity to the centromere or telomere. Positions are based on UCSC genome assembly GRCh37/hg19.

Locus	Target			Probe		
	Gene	Centromere	Telomere	Centromere	Telomere	Size (Kb)
3q26	TERC	169,482,398	169,482,848	169,172,922	169,645,626	473

For Investigational Use Only. The performance characteristics of this product have not been established.

## Probe Map:



## Product Contents:

All individual or FISH probe cocktails are provided ready to use in hybridization buffer and can be blended with up to 4 total probes. Blocking DNA is included to suppress non-specific binding to similar sequences outside of the indicated binding sites. Researchers are advised to optimize slide processing and hybridization conditions.

Volume: 250µl  
 Reactions: 50 (5µl/ reaction)

## Product Options:

All FISH probes are available in 5 standard color options (Red, Gold, Yellow, Green, and Aqua). Alternative custom color options are available.

Color	Dye	Absorbance	Emission	Ordering Code Extension
Red	Alexa594	590	615	R
Gold	Alexa555	555	565	D
Yellow	Alexa532	532	554	Y
Green	Alexa488	495	519	G
Aqua	DEAC	432	472	A

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## Storage:

Store at -20°C

Protect from direct light.

## References:

1. Heselmeyer-Haddad K, Janz V, Castle PE, Chaudhri N, White N, Wilber K, Morrison LE, Auer G, Burroughs FH, Sherman ME, Ried T.: Detection of genomic amplification of the human telomerase gene (TERC) in cytologic specimens as a genetic test for the diagnosis of cervical dysplasia. *Am J Pathol.* 2003 Oct;163(4):1405-16.
2. Heselmeyer-Haddad K, Sommerfeld K, White NM, Chaudhri N, Morrison LE, Palanisamy N, Wang ZY, Auer G, Steinberg W, Ried T.: Genomic amplification of the human telomerase gene (TERC) in pap smears predicts the development of cervical cancer. *Am J Pathol.* 2005 Apr;166(4):1229-38.
3. Voss JS, Kipp BR, Campion MB, Sokolova IA, Henry MR, Halling KC, Clayton AC.: Assessment of fluorescence in situ hybridization and hybrid capture 2 analyses of cervical cytology specimens diagnosed as low grade squamous intraepithelial lesion for the detection of high grade cervical intraepithelial neoplasia. *Anal Quant Cytol Histol.*, 2010 Jun;32(3):121-30.
4. Flacco A, Ludovini V, Bianconi F, Ragusa M, Bellezza G, Tofanetti FR, Pistola L, Siggillino A, Vannucci J, Cagini L, Sidoni A, Puma F, Varella-Garcia M, Crinò L. MYC and human telomerase gene (TERC) copy number gain in early-stage non-small cell lung cancer. *Am J Clin Oncol.* 2015 Apr;38(2):152-8. doi: 10.1097/COC.0000000000000012. PubMed PMID: 25806711; PubMed Central PMCID: PMC4607281.