

# TERC Gene Amplification Detection Probe

**Our Profile:** Wuhan HealthCare Biotechnology Co., Ltd. (HealthCare) offers a wide range tools in Molecular Diagnostics for medical and research laboratories. HealthCare innovative products consist of FISH probes (Fast Probe®), Pharmacogenetics Testing and FISH Pretreatment Instrument and are mainly used in areas such as Oncology, Cardio-Cerebrovascular, Hematology, Pre-postnatal Screening and Other major diseases.

## Product Advantages:

- **Fleetness:** Tissue probe hybridization time: 2 hours. Cell probe hybridization time: 1 hour.
- **Accuracy:** Less non-specific background staining (dyeing). Increase difficult samples detection rate.
- **Reproducibility:** Different laboratories test results are highly reproducible.

## About TERC

Cervical cancer is a major malignancy that seriously threatens women's health. The incidence rate ranks second in the female reproductive system malignancy. At present, the extensive use of cervical cytology screening and HPV testing has greatly reduced the incidence and mortality of cervical cancer, but the current screening procedures still have some limitations. For young women, mild cytological abnormalities are common, and most will disappear naturally; HPV infections may be short-lived and may turn negative naturally. More importantly, cervical cytology screening cannot distinguish well cervical intraepithelial neoplasia (CIN) and its progression prediction. The development of CIN as cervical cancer is a long-term process, and an early diagnosis and appropriate treatment may completely block it in the CIN or early stages of cancer and be completely cured. However, not all CIN lesions progress to high levels of disease and the current approach based on morphological diagnosis is sometimes difficult to identify CIN with non-tumor lesions and different levels of CIN, resulting in overtreatment or inadequate treatment. Therefore, other means are needed to assist in the CIN diagnosis. Recent studies have shown that almost all cervical cancers are accompanied by amplification of chromosome 3 long arms. The most important gene involved may be the telomerase RNA gene (TERC). The amplification of this gene can prevent cells from withering, death, leading to tumor development. Full data shows that as the level of cervical lesions increases, the positive rate of TERC gene amplification also increases. For example, the proportion of TERC gene amplification in CIN I samples is about 10%, while the proportion of TERC gene amplification in CIN II samples is as high as 60% or more. When the patient's pathological examination cannot determine whether the condition is CIN I or CIN II, if there is amplification of the TERC gene, the probability of the patient being CIN II and above is 90%, and there is a possibility of canceration. Therefore, the detection of TERC gene amplification by FISH method is helpful for the screening and early diagnosis of cervical cancer, and can help clarify the pathological level of precancerous lesions, thus prompting the clinical choice of reasonable treatment methods to avoid excessive treatment or inadequate treatment.

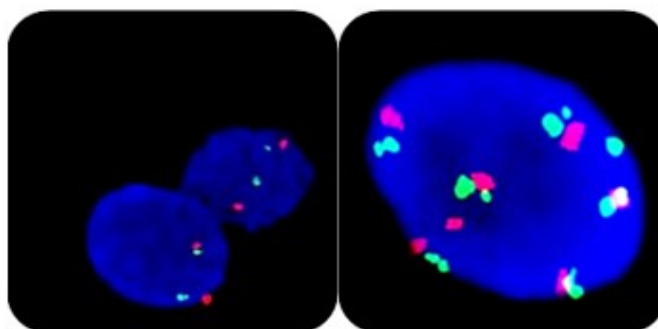
## Probe Description



The TERC gene amplification probe uses orange-red to mark TERC gene region, and green dye to mark chromosome 3 centromeric region (CEP3). The TERC gene marker region is located at 3q26.2, and the CEP3 probe is marked by a specific alpha satellite sequence.

### Clinical Significance





The detection of TERC gene status in patients can help to distinguish between high and low precancerous cervical lesions and improve the sensitivity and specificity of cytology and HPV screening for cervical lesions. Aus-US/CIN1 and CIN2/CIN3 can be distinguished from the pathological grading by using a suitable treatment plan and detecting the TERC gene status. Predicting disease progression and early intervention, patients with TERC gene amplification have more than 50% chance of developing into high-level lesions.



Negative TERC gene amplification

Positive TERC gene amplification

### Size Specifications

Product Name	Mark	Size
TERC Gene Amplification Detection Kit (IVD)	 / 	10 Tests/Box (100μl)
TERC Gene Amplification Detection Kit (IVD)	 / 	20 Tests/Box (200μl)

### Applications

Cervical cancer screening

### Product Description

Cervical cancer

### References

- Bryce LA, et al. (2000) Neoplasia 2: 197-201.
- Cao Y, et al. (2008) Cancer Sci 99: 1092-9.

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