Cat.:M2071-NA

# AcuGenix™ Superstart All-in-One qPCR Master Mix with UNG (Low DNA) V01

## Product Description

AcuGenix™ Superstart All-in-One qPCR Master Mix with UNG (Low DNA) is a specialized reagent for Real Time PCR qualitative and quantitative reactions using the probe method. It contains a novel hot start enzyme, Superstart Taq Plus, which Taq activity is blocked at room temperature. This effectively suppresses non-specific amplification caused by non-specific primer annealing or primer dimerization at low temperatures, improving the specificity of amplification reactions and achieving more stable detection results for extremely low-concentration templates. This reagent adopts an optimized qPCR-specific Buffer and UNG/dUTP anti-contamination system to obtain good standard curves in a wide quantitation range, accurately quantifying while effectively preventing false positive amplification caused by residual PCR products or aerosol contamination. This reagent is compatible with most fluorescence quantitative PCR instruments from manufacturers such as Applied Biosystems, Eppendorf, Bio-Rad and Roche. Through specialized treatment, this product is devoid of DNA residues and is appropriate for the development of biopharmaceutical-related detection reagents.

## Components

2×AcuGenix™ Superstart All-in-One qPCR Master Mix with UNG (Low DNA)

* Superstart Taq plus, UNG, PCR Buffer, $MgCl_2$, dNTPs and Stabilizer are already included in this reagent.

## Storage

Store at -20±5℃. Vortex before use. Avoid freeze-thaw cycles.

## Prepare Reaction Mix

| Composition | Volume per Reaction | Volume per Reaction | Final Concentration |
|---|---|---|---|
| 2×AcuGenix™ Superstart All-in-One qPCR Master Mix with UNG (Low DNA) | 12.5 μL | 25 μL | 1× |
| 25×Primer-Probe Mix [1] | 1 μL | 2 μL | 1× |
| Template DNA [2] | —— | —— | —— |
| $ddH_2O$ | To 25 μL | To 50 μL | —— |

1. Usually, a final primer concentration of 0.2 μM can yield good results, when the reaction performance is poor, the primer concentration can be adjusted within the range of 0.2-1 μM. Typically, probe optimization is performed in the range of 0.1-0.3 μM. Concentration gradient experiments can be conducted to find the optimal combination of primers and probes.
2. Different types of DNA templates contain different numbers of target gene copies. If necessary, gradient dilution can be performed to determine the optimal amount of DNA template.

## Reaction Programe

| Standard PCR Program | | | |
|---|---|---|---|
| Procedure | Temperature | Time | Cycle |
| Digestion | 50℃ | 2 min | 1 |
| Hot Start | 95℃ | 1-5 min | 1 |
| Denaturation | 95℃ | 10-20 s | 40-50 |
| Annealing and Extension | 56-64℃ | 20-60 s | |

## Quality Control

1. Functional testing: sensitivity, specificity, reproducibility of qPCR.
2. No exogenous nuclease activity, no exogenous endo/exonuclease contamination.

Zhuhai Biori Biotechnology Co.,Ltd
Tel: +86-0756-8699969 Web: www.biori-en.com Email: marketing@biori-en.com
Addr:No. 88, Shui' an 1st Road, Xiangzhou District, Zhuhai, Guangdong 519060, China

## Notes

1. AcuGenix™ Superstart All-in-One qPCR Master Mix with UNG (Low DNA) uses a new type of hot start enzyme that allows for quick activation within 1 to 5 minutes. Through a specially formulated buffer system, The buffer system has been optimized for multiple amplifications.
2. This reagent has higher specificity and significantly improves fluorescence quantitative PCR limit detection sensitivity, making it suitable as a high-sensitivity fluorescence quantitative PCR test agent for improving curve uniformity and fluorescent values at extremely low template concentrations.
3. For primers with lower annealing temperatures or fragments over 200 bp, it is suggested that three-step amplification be used.
4. The efficiency of dUTP utilization and sensitivity to UNG enzyme varies for different genes to be amplified. If the detection sensitivity is reduced due to the use of the UNG system, adjust and optimize the reaction system accordingly. If technical support is required, please contact our company.
5. Use dedicated areas and pipettes before and after amplification, wear gloves during operation, and regularly replace them. Do not open reaction tubes after PCR completion to minimize sample contamination from PCR products.