Cat.: M2071

AcuGenix™ Superstart All-in-One qPCR Master Mix with UNG V01

Product Description

AcuGenix™ Superstart All-in-One qPCR Master Mix with UNG is a probe-based reagent specifically formulated for qualitative and quantitative Real-Time PCR applications. This reagent contains a novel hot start enzyme, Superstart Taq Plus. It's Taq activity is blocked at ambient temperature. This product effectively suppresses non-specific reactions arising from primer mispriming or primer-dimer formation during PCR system preparation and amplification processes, making it highly specific with more effective amplification of low template concentrations. The reagent employs an optimized qPCR-specific buffer system combined with a UNG/dUTP carry-over prevention system, enabling accurate quantification across a wide dynamic range and reliably preventing false-positive signals caused by PCR product carry-over and aerosol contamination. This reagent is compatible with most real-time PCR instruments from major manufacturers, including Applied Biosystems, Eppendorf, Bio-Rad, and Roche.

Components

2×Superstart Premix plus-UNG (Probe qPCR)

* This reagent already contains Superstart Taq plus,UNG,PCR Buffer,$MgCl_2$,dNTPs and Stabilizer.

Storage

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

Prepare Reaction Mix

Components	25 μL System	50 μL System	Final Concentration
2×Superstart Premix plus-UNG (Probe qPCR)	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. The final concentration of primers is usually 0.2 μM for better results. when the reaction performance is poor, the primer concentration can be adjusted within the range of 0.2-1 μM. The probe concentration is usually optimized in the range of 0.1-0.3 μM. Concentration gradient experiments can be performed to find the best 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	Temp	Time	Cycle
UNG treatment	50°C	2 min	1
Hot Start	95°C	1-5 min	1
Denaturation	95°C	10-20 s	40-50
Annealing and Extension	56-64°C	20-60 s	

Quality control

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

Notes

1. AcuGenix™ Superstart qPCR Master Mix with UNG 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 exhibits enhanced specificity, significantly improving the detection sensitivity of real-time PCR at the limit of detection. It markedly improves amplification curve uniformity and fluorescence signal intensity at extremely low template concentrations, making it suitable as a high-sensitivity real-time PCR detection reagent.
3. For primers with low annealing temperatures or amplicon fragments longer than 200 bp, it is recommended to use a three-step method for amplification.
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.