



Ver. HB221110

# Hieff Unicon™ Universal Multiplex qPCR Master Mix (Probe Based)

## Product description

Hieff Unicon™ Universal Blue qPCR Master Mix (Probe Based) is a pre-solution for 2× real-time quantitative PCR amplification characterized by high sensitivity and specificity, is blue in color, and has the effect of sample addition. This product is a 2× Mix pre-mixed reagent that enables up to four fluorescent quantitative PCR reactions in a single reaction well. This product contains the genetically modified antibody method to hot-start Taq enzyme, greatly improving the amplification sensitivity and specificity. At the same time, this product has deeply optimized the multi-reaction buffer, which can improve the amplification efficiency of the reaction and promote the effective amplification of low-concentration templates. This product can be used for genotyping and multiplex quantitative analysis.

## Components

| Components No. | Name  | 11211ES03 | 11211ES08 | 11211ES09 |
|----------------|---|-----------|-----------|-----------|
| 11211          | Hieff Unicon™ Universal Multiplex qPCR Master Mix (Probe Based) | 1 mL      | 5×1 mL    | 5 mL      |
| Components No. | Name  | 11211ES20 | 11211ES60 | 11211ES61 |
| 11211          | Hieff Unicon™ Universal Multiplex qPCR Master Mix (Probe Based) | 20 mL     | 100×1 mL  | 100 mL    |

## Specifications

|                       |   |
|-----------------------|---|
| Hot Start             | Built-in hot start  |
| Detection method      | Primer-probe detection  |
| PCR method            | qPCR  |
| Polymerase            | Taq DNA polymerase  |
| Type of sample        | DNA   |
| Application equipment | Applied Biosystems: 5700, 7000, 7300, 7700, 7900HT Fast, StepOne™, StepOne Plus™, 7500, 7500 Fast, ViiA™7, QuantStudio™ 3 and 5, QuantStudio™ 6,7,12k Flex;<br>Bio-Rad: CFX96, CFX384, iCycler iQ, iQ5, MyiQ, MiniOpticon, Opticon, Opticon 2, Chromo4;<br>Eppendorf: Mastercycler ep realplex, realplex 2 s;<br>Qiagen: Corbett Rotor-Gene Q, Rotor-Gene 3000, Rotor-Gene 6000;<br>Roche Applied Science: LightCycler 480, LightCycler 2.0; Lightcycler 96;<br>Stratagene: MX3000P™, MX3005P™, MX4000P™; |



|  |   |
|--|---|
|  | Thermo Scientific: PikoReal Cyler; Cepheid: SmartCyler; Illumina: Eco qPCR. |
|--|---|

## Storage

The product should be stored at -25°C ~ -15°C for 2 year.

## Instructions

### 1.Reaction System

| Components  | Volume (μL) | Final Concentration |
|---|-------------|---------------------|
| 2× Hieff Unicon™ Universal TaqMan multiplex qPCR master mix | 12.5        | 1×                  |
| Primer mix (10 μmol/L)                                      | x           | 0.1-0.5 μmol/L      |
| Probe mix (10 μmol/L)                                       | x           | 50-250 nmol/L       |
| Rox reference dye   | 0.4         | 1×                  |
| Template DNA/cDNA   | 1-10        | -                   |
| ddH <sub>2</sub> O  | up to 25    | -                   |

[Note]: Mix thoroughly before use to avoid excessive bubbles from vigorous shaking.

- a) Primer concentration: Primer Mix contains multiple pairs of primers, usually each primer at a final concentration of 0.2 μmol/L and can also be adjusted between 0.1 and 0.5 μmol/L as appropriate.
- b) Probe concentration: Probe Mix contains multiple probes with different fluorescence signals, and the concentration of each probe can be adjusted between 50 and 250 nmol/L according to specific situation.
- c) Rox dye reference: It is used on Real Time PCR amplification instrument such as Applied Biosystems to correct the error of fluorescence signal generated between wells; this product does not contain Rox dye reference. Cas#10200 is recommended if needed.
- d) Template dilution: qPCR is highly sensitive, and it is recommended to dilute the template for use. If the template is a cDNA stock solution, the template volume should not exceed 1/10 of the total volume.
- e) Reaction system: 25 μL, 30 μL or 50 μL is recommended to ensure the effectiveness and repeatability of target gene amplification.
- f) System preparation: Please prepare in the super clean bench, and use the tips and reaction tubes without nuclease residue; it is recommended to use the tips with filter cartridges. Avoid cross contamination and aerosol contamination.

### 2.Reaction program

| Cycle step           | Temp. | Time  | Cycles |
|----------------------|-------|-------|--------|
| Initial denaturation | 95°C  | 5 min | 1      |
| Denaturation         | 95°C  | 15 s  | 45     |
| Annealing/Extension  | 60°C  | 30 s  |        |

[Note]: a) Annealing/Extension: The temperature and time can be appropriately adjusted according to the designed primer T<sub>m</sub> value.

b) Fluorescence signal acquisition: The fluorescence signal acquisition time required for different qPCR detection instruments is different, please set according to the minimum time limit. The time of several common instruments is set as follows:

20 sec: Applied Biosystems 7700, 7900HT, 7500 Fast



31 sec: Applied Biosystems 7300

32 sec: Applied Biosystems 7500

## Notes

Please wear the necessary PPE, such lab coat and gloves, to ensure your health and safety!