# Probe HS-qPCR Master Mix, 2X

REF **MM2163**

**1250µl/100 reaction**

**Wet or Dry Ice**

RUO

**Store at: -20°C**

(Not more than 50thawing-freezing cycles)

**Component**

| | |
|---|---|
| **Probe HS-qPCR Master Mix, 2X** | **1250µl** |

**Description**

Probe HS-qPCR Master Mix, (2x) is developed for quantitative real-time PCR with fluorescent probes. It includes all the components necessary for PCR (Highly processive recombinant HS-Taq DNA polymerase, Deoxy nucleoside triphosphate mix, PCR buffer, $Mg^{2+}$ except for DNA template, primers and probe). The mix is optimized for consistent and efficient real-time hot-start PCR of genomic, plasmid and viral DNA samples. It is supplemented with additives that increase half-life and processivity of HS-Taq DNA polymerase by enhancing its stability during PCR. Probe HS-qPCR Master Mix, 2x does not contain substances affecting primer annealing temperature and characteristics of template melting. DNA polymerase included in the Probe HS-qPCR Master Mix, 2x is inactive at room temperature, and its activation requires preheating of the reaction solution at 95℃ for 5min.



**Probe HS-qPCR Master Mix, 2X contains:**

100mM Tris-HCl (pH 9.1 at 25 C), 150mM KCl, 0.4mM each deoxy nucleoside triphosphate, 6mM MgCl2, 0.1U/µl HS-Taq DNA polymerase, 0.025% Tween 20 and stabilizers of HS-Taq DNA polymerase.

**Applications:**

- Real-time PCR with fluorescently labeled probes
- Conventional PCR
- High-throughput PCR
- Multiplex PCR
- Genotyping

**Benefits of use**

- The enzyme with hot start capability enhances reaction specificity
- Activation of HS-Taq DNA polymerase requires not more than 5 min heating
- High selectivity and reaction yield
- Reduced preparation time
- Low chance of contamination during preparation of PCR solution
- Standardized conditions of the same-type reactions (reduce pipetting error during mixing PCR components in a series of experiments)
- Minimized efforts

**Limits of use**

- Not recommended to use for real-time PCR with intercalating dyes.

**Reaction mixes features**

- Recombinant HS-Taq DNA polymerase has 5'→3' DNA-dependent polymerase activity and 5'→3' exonuclease activity.
- prevents re-amplification of extraneous PCR products

**Recommended qPCR reaction mix:**

1. Unfreeze the reaction mixture and stir gently.
2. Add the following components into thin-well PCR tubes considering the final volume of a reaction mixture equal to 25µl:

| Component | Volume | Final concentration |
|---|---|---|
| **Probe HS-qPCR Master Mix, 2x** | 12.5 | 1X |
| **Forward primer** | variable | 0.1 – 600nM |
| **Reverse primer** | variable | 0.1 – 600nM |
| **Probe** | variable | 0.1–300nM |
| **DNA template** | Variable | 1pg – 1µg |
| **Sterile water** | up to 25µl | - |

**Recommended qPCR cycles:**

| Step | Temperature, °C | Incubation time | Number of cycles |
|---|---|---|---|
| **Preliminary denaturation** | **95** | **5-7 min** | **1** |
| **Denaturation** | **95** | **15 sec** | **25- 50** |
| **Annealing** | **50- 68** | **10-30 sec** | |
| **Elongation** | **58- 72** | **30-60 sec** | |

Or:

| Step | Temperature, °C | Incubation time | Number of cycles |
|---|---|---|---|
| **Preliminary denaturation** | **95** | **5-7 min** | **1** |
| **Denaturation** | **95** | **15 sec** | **30- 50** |
| **Annealing/ Elongation** | **50- 68** | **1min** | |



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