2× Tools Taq PCR MasterMix with Loading Dye

Cat. no. KTT-BB01

Storage: For long-term preservation, store at −20°C to ensure that Tools Taq PCR MasterMix retains full activity through repeated freezing and thawing. For regular use, please store at 4°C.

Product Size:

Components	KTT-BB01
2× Tools*Taq* PCR MasterMix	1 mL
Loading dye in MasterMix	Yes

Introduction

2× Tools *Taq* PCR MasterMix is an optimized, double-concentrated mixture of Tools *Taq* DNA polymerase, dNTPs, $MgCl_2$, and a reaction buffer, PCR enhancer, optimizer, and stabilizer. Its advantages include convenience and high sensitivity, specificity, and stability. In addition, it minimizes human error during PCR and is suitable for regular PCR, large-scale gene detection, and the amplification of complex templates such as GC-rich (>60%) templates and templates with secondary structures.

Product Components (2×)

0.1 U/μL Tools *Taq* DNA Polymerase

500 μM dNTP

20 mM Tris-HCl (pH 8.3)

100 mM KCl

3 mM $MgCl_2$

Stabilizer

Enhancer

Storage Buffer

Description

The 2× Tools *Taq* PCR MasterMix is designed for quick and easy preparation of reaction mixtures, which minimizes the risk of contamination during PCR. For PCR setup, users need only pipette an aliquot of the MasterMix and dilute the MasterMix to 1× by adding templates, primers, and water up to the reaction volume. Two types of this product are available: MasterMix with and without loading dye (blue and colorless, respectively). PCR products amplified using MasterMix with loading dye can be loaded directly, without an additional loading buffer.

Applications

1. Gene detection, particularly large-scale gene detection, semiquantitative PCR, and detection of trace amounts of DNA.
2. Amplification of DNA and complex templates such as GC-rich (>60%) templates and templates with complex secondary structures. The enzyme of the MasterMix generates PCR products with A-tailing, which are suitable for TA cloning.

Example

Note: the following example is for reference only. The user must establish the optimal reaction system according to the reaction conditions such as the template and primer.

1. In a 25-μL reaction system: amplify a 1-kb fragment of human genomic DNA by using 2× Tools *Taq* PCR MasterMix (if using a different reaction system, please proportionally increase or reduce the amounts of reaction components, using this system as a reference).

Template	<1 μg
Primer 1 (10 μM)	1 μL
Primer 2 (10 μM)	1 μL
2× Tools Taq PCR MasterMix	12.5 μL
ddH_2O	≤25 μL

2. PCR setup:

94°C 3 min

94°C 30 s
55°C 30 s } 30 cycles
72°C 1 min

72°C 5 min

3. Result detection: load 5 μL of PCR products onto agarose gel.

The product is for research purposes only and not for diagnostic or clinical use.