# PCR MasterMix instruction manual

| Item | No.Name | Specification |
|---|---|---|
| PC1120 | 2 x Taq PCR MasterMix (with Dye) | 1mL /1mL×5 |
| PC1150 | 2 x Taq PCR MasterMix (without dye) | 1mL /1mL×5 |
| PC1320 | 2×Pfu PCR MasterMix (including dye) | 1mL /1mL×5 |
| PC1350 | 2×Pfu PCR MasterMix (without dye) | 1mL /1mL×5 |
| PC1220 | 2×Taq Plus MasterMix (with dye) | 1mL /1mL×5 |
| PC1250 | 2×Taq Plus MasterMix (without dye) | 1mL /1mL×5 |

**Storage: Store** at -20°C for 12 months, store at 2-8°C for a short period of one week to avoid repeated freezing and thawing.

**Product introduction:**

The PCR MasterMix produced by Solarbio company contains three enzymes (Taq, Pfu, Taq plus), each enzyme corresponds to two kinds of PCR MasterMix (dye and dye free), a total of six kinds of PCR MasterMix.

Taq: The highest amplification efficiency of heat-resistant DNA polymerase, its amplification rate of about 1-2kb/min. The amplification base error rate is about $10^{-5}$. The product has A on the end and can be directly used for TA cloning.

Pfu: Currently the highest fidelity of heat-resistant DNA polymerase, base error rate is $10^{-6}$, but the amplification efficiency is lower than Taq enzyme, generally can very well amplify the fragment below 2kb. Its amplification speed is about 500bp/min. The product is A flat end and can be used for TA cloning only after adding A.

Taq Plus: An equal mixture of Taq and Pfu. A combination of high amplification efficiency and high fidelity. Amplification efficiency is higher than Pfu, fidelity is better than Taq. The amplification rate was about 1000bp/min. The product with A on the end can be directly used for TA cloning.

After the reaction of dye-containing PCR MasterMix, it can be directly detected by electrophoresis. After the reaction of dye-free PCR MasterMix, the sample buffer is added for electrophoretic detection.

**Product composition (2×) :**

20mM Tris-HCl (pH 8.3)
100mM KCl
3mM $MgCl_2$
500μM dNTP each
0.1U Polymerase/μL
$ddH_2O$, other stabilizers and reinforcers

**Application examples (for reference only) :**

1. Prepare 50μL PCR reaction system

| | |
|---|---|
| Template < | 1μg |
| primer1(10μM) | 2μL |
| Primer2(10μM) | 2μL |
| 2×MasterMix | 25μL |
| $ddHO_2$ up to | 50μL |

2. PCR reaction cycle setting

| | | |
|---|---|---|
| 94℃ | 3min | |
| 94℃ | 30s | 30 cycles |
| 55℃ | 30s | |
| 72℃ | 500-2000bp/1min | |
| 72℃ | 5min | |

3 Result detection: After the reaction, take 5μL reaction product, agarose gel electrophoresis detection.

**Related products:**

| | |
|---|---|
| *A8201* | *Agarose* |
| *T1060* | *50 x TAE buffer* |
| *D1010* | *6×DNA Loading Buffer* |
| *M1070* | *D2000 plus DNA Ladder* |
| *PC1100* | *Taq DNA Polymerase* |
| *PC2100* | *dNTPs Mix(2.5mM each)* |
| *PC2200* | *dNTPs Mix(10mM each)* |
| *RP1100* | *General Purpose RT-PCR Kit (M-MLV)* |
| *SR1110* | *2×SYBR Green PCR Mastermix* |
| *SR2110* | *2×Taqman PCR MasterMix* |