



Instruction for Use

2X Pro Taq HS Master Mix Ver. 2

AG11307

Version.V2E1

Research Use Only
Not For Diagnosis Procedures

1. Description

This product is a ready-to-use Pro Taq HS enzyme PCR reaction premix with a 2x concentration. To perform a PCR reaction, simply add the template and primers to the premix to initiate amplification. This premix design is convenient and minimizes human error, allowing for rapid detection results in a short time.

The included Pro Taq enzyme is based on the LA PCR principle, combining our high-performance Accurate Taq enzyme with a high-fidelity enzyme that possesses 3'→5' exonuclease activity (proofreading activity). It is particularly suitable for amplifying DNA fragments over 10 kb, offering excellent fidelity. Additionally, the enzyme system incorporates a Taq monoclonal antibody, enabling Hot Start PCR. Before the reaction starts, the antibody binds to the Taq enzyme to inhibit its activity, preventing nonspecific amplification caused by primer misannealing or primer-dimer formation at low temperatures. When the PCR reaction begins, the antibody is inactivated during the initial DNA denaturation step, allowing the reaction to proceed under standard PCR conditions. Most PCR products generated with this system have an A-overhang at the 3' end, enabling direct cloning into T vectors.

2. Kit Information

Kit Name	Cat. No	Specification
2X Pro Taq Master Mix (dye plus)	AG 11109	120 rxns / 50 µl

3. Transportation and Storage

Storage	Store at -20°C
Transportation	Transport at -20°C Dry Ice or Blue Ice Condition

4. Kit Components

Kit Components	Volume
2X Pro Taq HS Master Mix Ver.2	500 µl x 6 pcs
RNase free water	1 ml x 3pcs

5. Protocol

5.1 Reagent Preparation

The final reaction volume in this protocol is 50 μ l. The volumes given here may be scaled for larger or smaller reaction volume.

Components	Final Concentration	Volume
2X Pro Taq Master Mix (dye plus) ^{*1}	1 X	25 μ L
Template	≤ 500 ng ^{*2}	-
Primer F (10 μ M)	0.2 μ M ^{*3}	1 μ L
Primer R (10 μ M)	0.2 μ M ^{*3}	1 μ L
RNase free water	-	Up to 50 μ L

*1 : For the first use of 2X Pro Taq Master Mix (Dye Plus), centrifuge the solution to collect it at the bottom of the tube before use to minimize enzyme loss.

*2 : It is generally recommended to add no more than 500 ng of template DNA. Adjust the amount as needed based on experimental requirements.

*3 : Use a final concentration of 0.2 μ M for primers. This can be adjusted within the range of 0.2 ~ 1.0 μ M based on experimental results.

*4 : Prepare the reaction mixture on ice. After preparation, place the mixture in a PCR machine for the reaction.

5.2 Thermal Cycling Program

The cycling parameters below are offered as a guideline and may be modified as necessary for optimal results.

(As example for target DNA length of 1kb)

Step	Temperature	Time	Number of Cycles
Initial-Denaturation	94°C	30 sec	1
Denaturation*	98°C	10 sec	
Annealing	55°C	30 sec	25~35
Extension	72°C	1 min	
Final Extension	72°C	2 min	1

*: Could be adjusted based on the instrument model and experiment requirement, recommended to be as :
 94°C 20 ~ 30 sec; 98°C 5 ~ 10 sec.

Annealing Temperature is recommended to be $\pm 5^\circ\text{C}$ of the Tm Value of upstream downstream primers.

6. Result Analysis

Collect and Purify the PCR product. Then analyse via Agarose Gel Electrophoresis.



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