FOREGENE

PCR Hero™

Cat.No.PH-01013/01014/01015

The ultra-fast 2× PCR premix system developed based on Foregene's new generation Taq Hero, dedicated to the rapid amplification of various DNA templates

Product Introduction

This product includes Foregene's unique new generation of Taq——Foregene Taq Hero, optimized dNTPs, $MgCl_2$, reaction buffer, PCR reaction enhancer, optimizer and stabilizer. The 2× PCR Hero™ Mix system has higher tolerance to PCR inhibitors than the ordinary PCR Mix system, and can easily cope with PCR amplification of various complex templates. The unique reaction system and high-efficiency Taq Hero make the PCR reaction have higher amplification efficiency, specificity and sensitivity.

Taq Hero is a new generation of DNA polymerase modified by Foregene based on Taq enzyme. It has the following characteristics:

- **Higher fidelity**: **6** times that of ordinary Taq enzyme;
- **Faster amplification speed:** the amplification speed is 5-10sec/kb, which is 6-12 times that of ordinary Taq enzyme;
- **More template adaptability**: it can efficiently amplify various complex DNA templates with high GC content and difficult to amplify;
- **Higher Amplification efficiency**: the number of amplification cycles is lower than that of ordinary Taq enzyme;
- **Stronger Environmental tolerance**: placed at 37°C for a week, maintaining more than **90%** activity;
- It has 5'→3' DNA polymerase activity and 5'→3' exonuclease activity, without 3'→5' exonuclease activity.

Kit Series

PH-01013： 2× PCR Hero™ Mix 1.7ml ×3

PH-01014： 2× PCR Hero™ Mix 1.7ml ×6

PH-01015：2× PCR Hero™ Mix 1.7ml ×24

Storage Conditions

It can be stored for a long time at -20°C; for frequent use, it can be stored at 4°C for a short time.

Kit Contents

2× PCR Hero™ Mix include：0.1U Taq Hero/μl, 400μM dNTPs, 20mM Tris-HCl(pH8.8),100mM KCl, 5mM $MgCl_2$,other stabilizers and enhancers.

Kit application

- ❖ PCR amplification of DNA fragments
- ❖ DNA labeling
- ❖ DNA sequencing
- ❖ PCR plus A tail

Instructions

PCR Hero™ is convenient and quick to use, and can avoid the pollution during the PCR operation and the experimental error caused by multiple preparations of the reaction system to the greatest extent. Use only half the volume of the reaction system (for example, if the reaction system is 20μl, take 10μl 2× PCR Hero™ Mix) of 2× PCR Hero™ Mix, add template and primers, and add deionized water to make up Volume, make the PCR Mix concentration in the reaction system 1×, then the reaction can be carried out.

Practical examples

1.Reaction system

2× PCR Hero™ Mix	10μl
Template DNA	xμl
Primer 1(10μM)	0.4μl
Primer 2(10μM)	0.4μl
ddH_2O	Fill to 20μl
Total volume	20μl

2.Reaction conditions

Temperature	Time	Cycles
94°C	3min	1
94°C	10sec	25-40
55-65°C	10sec	
72°C	≥10sec (5-20sec/kb)[1*]	
72°C	5min	1

1*: If using plasmid as template, the extension speed is 5sec/kb, we recommend using 10sec/kb; if using genomic DNA as the template, the extension speed is 10sec/kb, we recommend using 20sec/kb. If you use a highly complex template that is difficult to amplify, it is recommended to increase the extension time by 10sec/kb on the original basis.

Note: For 10μl and 20μl systems, if the PCR machine does not have a thermal cover, add an equal volume of mineral oil. The PCR reaction conditions are based on the specific conditions of the template, primer set, and the GC content and length of the primers to design the best reaction conditions, including annealing temperature, extension time, etc.

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