TIANGEN®

KT171207

Multi PCR Kit

Cat. No. 4992787/4992788

Storage: -20°C.

Product size

Product Components	4992787	4992788
Multi HotStart DNA Polymerase (5 U/μl)	250 U	500 U
10× Multi HotStart Buffer	1.8 ml	1.8 ml
$MgCl_2$ (25 mM)	1.8 ml	1.8 ml
Super Pure dNTPs (2.5 mM each)	240 μl	500 μl
ddH_2O	2×1 ml	5 ml

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Introduction

This kit is specially developed for fast and efficient multiplex PCR. Among all of the HotStart DNA polymerases found till now, Multi HotStart DNA Polymerase shows the best performance. The chemically modified enzyme should be heated at 95°C for 15 min to fully release the activity, so as to ensure high specificity. The hot-start feature enables reactions to be set up at room temperature. The PCR buffer contains a balanced combination of salts and additives which enable comparable efficiencies for annealing and extension of all primers in the reaction which is rapid and convenient. For complex templates, Mg^{2+} concentration could be adjusted to get optimized result.

Unit Definition

One unit of Multi HotStart DNA Polymerase is defined as the amount that incorporates 10 nmol of dNTPs into acid-insoluble substrates within 30 min at 74°C with activated salmon sperm DNA as the template-primer.

Storage Buffer

20 mM Tris-HCl (pH9.0), 0.1 mM EDTA, 1 mM DTT, 100 mM KCl, Stabilizers, 50% Glycerol (v/v)

10× Multi HotStart Buffer

200 mM Tris-HCl (pH 8.8), 100 mM KCl, 100 mM $(NH_4)_2SO_4$, 20 mM $MgSO_4$, others.

Applications

1.Multiplex PCR
2.Amplification of highly specific DNA
3.Amplification of low copy template
4.Amplification of complex template (e.g.complex genomic DNA, cDNA, etc.)

Product Highlights

1.**High specificity:** Chemically modified HotStart polymerase ensures highly specific amplification.
2. **High sensitivity:** Low copy amplification and high efficiency of multiplex PCR can be realized.
3. **Simple operation:** The enzyme has no activity at low temperature and room temperature, and the reaction can be prepared at room temperature.

Example

Note: The following example provided is only for reference, user must set up optimal reaction system according to different reaction conditions such as different templates or primers, *etc*.

1. For 50 μl PCR reaction system: 100-1000 bp fragment of human genomic DNA was amplified (If using different reaction system, please proportionally increase or decrease the amount of reaction components referring to this system).

Template	< 1 μg
10×Primer Mix (2 μM each)	5 μl
10×Multi HotStart Buffer	5 μl
Super Pure dNTPs (2.5 mM each)	4 μl
Multi HotStart DNA Polymerase	1 μl
ddH_2O	up to 50 μl

2. PCR cycle set-up:

95°C 15 min
94°C 30 sec
58°C 90 sec
72°C 90 sec*
} 40 cycles
72°C 10 min

*Extension time for varied lengths of fragment:

<500 bp 60 sec
<1500 bp 90 sec
>1500 bp 120 sec

3. Result detection: Load 8 μl of PCR products to agarose gel for detection.