TIANGEN®

EM171207

Methylation-specific PCR (MSP) Kit

Cat. No. 4992759

Storage: It can be stored for 12 months at -20°C.

Concentration: 2.5 U/μl

Product size

Product Components	4992759
MSP DNA Polymerase (2.5 U/μl)	400 U
10×MSP PCR Buffer	1 ml
dNTPs (2.5 mM)	1 ml

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HTTP://WWW.TIANGEN.COM/EN

The product is used for research only, neither intended for the diagnosis, or treatment of a disease, nor for the food, or cosmetics, etc.

Introduction

Epigenetics is a branch of genetics that studies the heritable changes of gene expression and regulation without changing the nucleotide sequence of genes. There are many epigenetic phenomena, such as RNA mediated gene silencing and histone modification. One of the major epigenetic mechanisms in higher eukaryotes is DNA methylation.

This product is a kit specially developed for customers who study the methylation characteristics of genomic DNA by PCR. The kit has simple components, including MSP DNA Polymerase, 10×MSP PCR Buffer and dNTPs. Among them, MSP DNA Polymerase is a thermostable polymerase modified with antibody, and 10×MSP PCR Buffer is a PCR buffer optimized especially for MSP reaction. The product has the advantages of rapidness, simplicity, high sensitivity, strong specificity, good stability, etc. It is suitable to be used together with DNA Bisulfite Conversion Kit (Cat.no. 4992447).

10×MSP PCR Buffer:

500 mM Tris-HCl (pH8.8)

200 mM KCl

15 mM $MgCl_2$

Other stabilizers and enhancers

Quality Control

The purity of SDS-PAGE is more than 99%; No activity of exogenous nuclease is detected; Single copy gene in human genome could be amplified effectively; No significant activity change when stored at room temperature for one week.

Description

The product is convenient and quick to use, and can avoid contamination during PCR operation. When in use, simply add a proper amount of MSP DNA Polymerase, 10×MSP PCR Buffer and dNTPs, then add templates and primers, and finally top up the volume with ddH_2O to make the 1×MSP PCR Buffer concentration for PCR reaction.

Applications

This product is suitable for analyzing the methylation characteristics of genomic DNA by methylation specific PCR (MSP) method.

Example

Note: The following example is for reference only. The actual reaction conditions vary according to different reaction conditions such as templates, primers, etc. The optimal reaction conditions should be set according to the actual situation.

1. Using Methylation-specific PCR (MSP) Kit and bisulfite treated genomic DNA as template, amplify 400 bp fragment with a reaction system of 20 μl .

Template	< 500 ng
Primer 1(10 μM)	1 μl
Primer 2(10 μM)	1 μl
dNTPs (2.5 mM)	1.6 μl
MSP DNA Polymerase	1 U
10×MSP PCR Buffer	2 μl
ddH_2O	Up to 20 μl

2. PCR reaction cycle set-up:

94°C 5 min
94°C 20 sec
60°C 30 sec } 30 cycles
72°C 20 sec
72°C 5 min

3. Results Detection: After the reaction, load 10 μl of the reaction products to agarose gel for PCR detection.

Note: Repeated freezing and thawing of DNA templates will affect amplification, so try not to freeze and thaw DNA templates repeatedly. If multiple experiments are needed, aliquot the reagents before freeze storage to reduce freeze-thaw times.