DMT Enzyme

Please read the manual carefully before use

Cat. No. GD111

Version No. Version 1.0

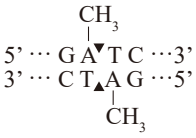
Concentration: 10,000 units/ml

Storage: at -18℃ or below for two years

Description

This product is an improved version of DpnI restriction enzyme, exhibiting higher activity compared with conventional DpnI enzyme. This enzyme can effectively recognize and cleave the sequence G^{m}ATC (A is methylated) and cannot cleave the sequence GATC (A is not methylated). DMT Enzyme is compatible with reaction buffers of multiple PCR enzymes (such as *EasyPfu*, *TransStart® FastPfu*, etc.). After PCR, this enzyme can be added directly to the reaction system to start digestion reaction. After digestion reaction, downstream transformation experiments can be performed without heat inactivation.

Restriction Site



Highlights

High efficiency, high specificity, no star activity.

Applications

In vitro site-directed DNA mutagenesis; degradation of methylated plasmid template.

Product Contents

Component	GD111-01	GD111-02
DMT Enzyme	200 units	5×200 units
10×*FlyCut®* Buffer	250 µl	1 ml
6×DNA Loading Buffer	1 ml	1 ml

Unit Definition

One unit (U) is defined as the amount of enzyme required for completely digesting 1 µg methylated pBR322 plasmid at 37℃ for one hour in a 50 µl reaction system.

Quality Control

16-hour incubation: In a 50µl reaction system, 10 units of enzyme are incubated with 1 µg DNA for 16 hours. The result is comparable with that of 1-hour incubation with 1 unit of enzyme.

Endonuclease activity: In a 50 µl reaction system, incubation of 10 units of enzyme with 1 µg pBR322 DNA at 37℃ for 4 hours results in no more than 10% conversion from RFI DNA to RFII DNA.

Storage Buffer

20 mM Tris-HCl pH 7.4, 300 mM NaCl, 0.1 mM EDTA, 1.5 mM DTT, 0.1% Triton X-100, 150 μg/ml BSA, 50% Glycerol.

10×*FlyCut*® Buffer

500 mM Tris-Ac pH 7.9, 1 M KAc, 120 mM $MgAc_2$, 1 mg/ml BSA.

Recommended Reaction System

Component	Volume
DNA	≤1 μg
10×*FlyCut*® Buffer	5 μl
DMT Enzyme	1 μl
Nuclease-free Water	Variable
Total volume	50 μl

For digestion of > 1μg DNA, please adjust each component and extend digestion time according to the above reaction system.

Reaction Conditions

Incubate at 37℃ for 5-15 minutes. To terminate the reaction, add 6×DNA Loading Buffer to reach a final concentration of 1×, or heat at 80℃ for 20 minutes.

Recommended Reaction System and Conditions of Digesting PCR Products

Add 1 μl DMT enzyme to 50 μl PCR products, mix well and incubate at 37℃ for 1 hour. After the reaction, downstream transformation experiments can be performed without heat inactivation.

Note

Please mix the buffer thoroughly prior to use.

For research use only, not for clinical diagnosis.

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