SwiftCut DpnI

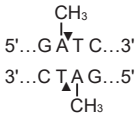
C404

Version 24.1

Product Description

SwiftCut series is a type of fast restriction endonuclease that is obtained by recombination-mediated genetic engineering. All SwiftCut series endonucleases can accurately cleave DNA within 5 - 15 min, which are applicable for fast restriction endonuclease digestion of plasmid DNA, PCR products, and genomic DNA. All SwiftCut series endonucleases have 100% activity in the universal 10 × SwiftCut Buffer or 10 × SwiftCut Color Buffer, allowing multiple restriction endonuclease digestions to be performed simultaneously in the same reaction system. In addition, 10 × SwiftCut Color Buffer contains red and yellow tracking dyes, facilitating direct gel electrophoresis of PCR products. The red dye in the 10 × SwiftCut Color Buffer migrates at a similar rate to 2,500 bp double-stranded DNA fragments in a 1% agarose gel, and the yellow dye migrates at a similar rate to 10 bp double-stranded DNA fragments in a 1% agarose gel.

The recognition sequence and cleavage sites are shown in the figure below:



Components

Components	C404-01 (50 rxns)
SwiftCut DpnI	50 µl
10 × SwiftCut Buffer	1 ml
10 × SwiftCut Color Buffer	1 ml

Storage

Store at -30 ~ -15°C and transport at ≤0°C.

Applications

◇ The restriction endonuclease digestion of genomic DNA and plasmid DNA.

◇ The removal of plasmid templates after amplification reaction.

Applications

For research use only. Not for use in diagnostic procedures.

1. It is not recommended to perform restriction endonuclease digestion for more than 3 h, which may lead to star activity.
2. DpnI will only cleave methylated sites. Plasmid DNA purified from a dam$^+$ strain will be a substrate for DpnI.

Experiment Process

1. Restriction endonuclease digestions of DNA

   a. Prepare the reaction system according to the following table:

Components	Plasmid DNA	Genomic DNA
10 × SwiftCut Buffer/10 × SwiftCut Color Buffer	2 μl	5 μl
SwiftCut DpnI	1 μl	5 μl
DNA	≤1 μg	≤5 μg
ddH_2O	up to 20 μl	up to 50 μl

▲ The reaction volume can be scaled up or down in equal proportions according to actual requirements.

   b. Mix well by flicking the tube, then centrifuge briefly to collect the sample to the bottom of the tube.

   c. Incubate at 37°C for 15 min (plasmid DNA) or 30 - 60 min (genomic DNA).

2. Double or multiple digestions

   a. The amount of each restriction endonuclease still refers to the table above, and the reaction volume can be scaled up or down in equal proportions according to actual requirements. In addition, it is important to adjust the amount of buffer to ensure that the final concentration is 1 ×.

   b. The volume of restriction endonuclease should be ≤1/10 of the total reaction volume.

3. Methylation Sensitivity

Dam	Dcm	CpG	EcoKI	EcoBI
Not Sensitive	**Not Sensitive**	**Impaired**	**Not Sensitive**	**Impaired**

4. Inactivation conditions

   DpnI is inactivated by incubation at 80°C for 20 min.