

DpnI

CATALOG NO.: M1236-2000
AMOUNT: 2000 U (100 µl)
CONCENTRATION: 20 U/µl
FORM: Liquid
SOURCE: An *E.coli* strain that carries the DpnI gene from *Diplococcus pneumoniae* G41

KIT COMPONENTS:

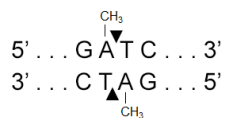
Components	Volume	Part No.
DpnI (20000 U/ml)	100 µl	M1236-2000-1
10X Universal Restriction Enzyme Reaction Buffer	1.25 ml	M1236-2000-2

DESCRIPTION: The DpnI restriction enzyme digests DNA at **G^{m6}A↓TC** sites, requiring N6-methylation of the adenine residue for activity. DNA purified from a dam⁺ *E. coli* strain will be a substrate for DpnI due to the adenine methylation. DpnI cleaves hemi-methylated dam sites 60X more slowly than fully methylated dam sites.

APPLICATIONS:

- Molecular cloning
- Site directed mutagenesis
- Restriction site mapping
- Genotyping
- Southern Blot
- SNP
- Restriction fragment length polymorphism (RFLP)

RECOGNITION SEQUENCE:



METHYLATION SENSITIVITY: dam methylation: Not sensitive
 dcm methylation: Not sensitive
 CpG methylation: Blocked by overlapping

ENZYME STORAGE BUFFER: 10 mM Tris-HCl (pH 7.5), 300 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 500 µg/ml BSA, and 50% (v/v) Glycerol.

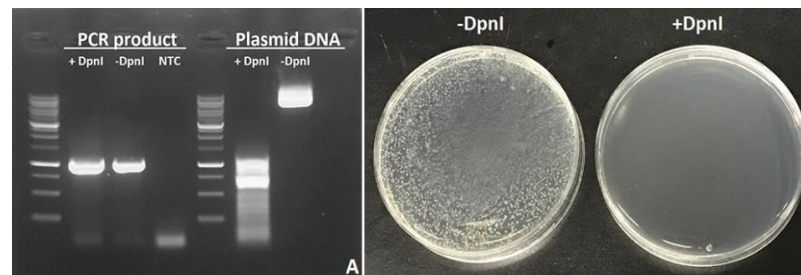
ENZYME UNIT DEFINITION: One unit is defined as the amount of restriction enzyme needed to digest 1 µg of dam methylated pBR322 DNA in 1 hour at 37°C in a reaction volume of 50 µl.

REACTION CONDITIONS: 1X Universal Restriction Enzyme Reaction Buffer and incubate at 37°C.

REACTION BUFFER COMPATIBILITY: Buffer 1: 100%, Buffer 2: 100%, Buffer 3: 75%, Universal Buffer: 100%

HEAT INACTIVATION: Heat at 65°C for 20 minutes

STORAGE CONDITIONS: Store at -20°C. Avoid repeated freeze-thaw cycles of all components to retain maximum performance. All components are stable for one year from the date of shipping when stored and handled properly.



High performance and high specificity of DpnI. DpnI does not cut unmethylated products such as PCR amplicons, but is highly specific for methylated DNA such as plasmids amplified in DH5α *E.coli* (Fig.A), allowing for complete removal of plasmid templates from PCR reactions to eliminate unwanted background colonies in downstream cloning applications. Fig B.DpnI can completely digest plasmid DNA yielding no transformants from 1 of digested plasmid DNA.,

RELATED PRODUCTS:

- RNase III *E.coli* (Cat# M1226-100)
- RNase A (Cat# M1227-25)
- RNase R (Cat# M1228-500)
- RNaseOFF ribonuclease Inhibitor (Cat# M1238-4000)
- DpnI (Cat# M1236-2000)

FOR RESEARCH USE ONLY! Not to be used on humans.