Product Name: DpnI
Catalog Number: R0176S
Concentration: 20,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of pBR322 DNA (dam methylated) in 1 hour at 37°C in a total reaction volume of 50 µl.
Packaging Lot Number: 10069974
Expiration Date: 08/2021
Storage Temperature: -20°C
Storage Conditions: 400 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA
Specification Version: PS-R0176S/L v1.0

DpnI Component List

<table>
<thead>
<tr>
<th>NEB Part Number</th>
<th>Component Description</th>
<th>Lot Number</th>
<th>Individual QC Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>R0176SVIAL</td>
<td>DpnI</td>
<td>10053971</td>
<td>Pass</td>
</tr>
<tr>
<td>B7204SVIAL</td>
<td>CutSmart® Buffer</td>
<td>10071077</td>
<td>Pass</td>
</tr>
<tr>
<td>B7024SVIAL</td>
<td>Gel Loading Dye, Purple (6X)</td>
<td>10065747</td>
<td>Pass</td>
</tr>
</tbody>
</table>

Assay Name/Specification

Protein Purity Assay (SDS-PAGE)
DpnI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.

Non-Specific DNase Activity (16 Hour)
A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pBR322 DNA and a minimum of 100 units of DpnI incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

Ligation and Recutting (Terminal Integrity)
After a 20-fold over-digestion of pBR322 DNA with DpnI, ~25% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with DpnI.

Exonuclease Activity (Radioactivity Release)
A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³²H] E. coli DNA and a minimum of 200 units of DpnI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

Pass
<table>
<thead>
<tr>
<th>Assay Name/Specification</th>
<th>Lot # 10069974</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Endonuclease Activity (Nicking)</strong></td>
<td>Pass</td>
</tr>
<tr>
<td>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 units of DpnI incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</td>
<td></td>
</tr>
</tbody>
</table>

This product has been tested and shown to be in compliance with all specifications.

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Penghua Zhang  
Production Scientist  
21 Apr 2020

Jay Minichiello  
Packaging Quality Control Inspector  
21 Apr 2020