Product Name: FseI
Catalog Number: R0588L
Concentration: 2,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of pBC4 DNA in 1 hour at 37°C in a total reaction volume of 50 µl.
Lot Number: 10022534
Expiration Date: 09/2019
Storage Temperature: -80°C
Storage Conditions: 10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.5 % Tween® 20, 0.5 % IGEPAL® CA-630, 50 % Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-R0588S/L v3.0

### FseI 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>R0588LVIAL</td>
<td>FseI</td>
<td>10020308</td>
<td>Pass</td>
</tr>
<tr>
<td>B7204SVIAL</td>
<td>CutSmart® Buffer</td>
<td>10018442</td>
<td>Pass</td>
</tr>
<tr>
<td>B7024SVIAL</td>
<td>Gel Loading Dye, Purple (6X)</td>
<td>10013725</td>
<td>Pass</td>
</tr>
</tbody>
</table>

### Assay Name/Specification

#### Endonuclease Activity (Nicking)

A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 10 Units of FseI incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

#### 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 10 units of FseI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

#### Ligation and Recutting (Terminal Integrity)

After a 10-fold over-digestion of pBC4 DNA with FseI, >95% 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 FseI.

#### Non-Specific DNase Activity (16 Hour)

A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pBC4 DNA and a minimum of 10 units of FseI incubated for 16 hours at 37°C results in a DNA pattern free of
<table>
<thead>
<tr>
<th>Assay Name/Specification</th>
<th>Lot # 10022534</th>
</tr>
</thead>
<tbody>
<tr>
<td>detectable nuclease degradation as determined by agarose gel electrophoresis.</td>
<td></td>
</tr>
<tr>
<td><strong>Protein Purity Assay (SDS-PAGE)</strong></td>
<td></td>
</tr>
<tr>
<td>FseI is &gt;95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</td>
<td>Pass</td>
</tr>
</tbody>
</table>

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

Tony Spear-Alfonso  
Production Scientist  
08 Aug 2018

Michael Tonello  
Packaging Quality Control Inspector  
24 Sep 2018