NEW ENGLAND BioLabs Inc.
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Tel 978-927-5054
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# New England Biolabs
# Certificate of Analysis

| | |
|---|---|
| *Product Name:* | *FseI* |
| *Catalog Number:* | *R0588S* |
| *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:* | *10049893* |
| *Expiration Date:* | *07/2020* |
| *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**

| NEB Part Number | Component Description | Lot Number | Individual QC Result |
|---|---|---|---|
| R0588SVIAL | FseI | 10049894 | **Pass** |
| B7204SVIAL | CutSmart® Buffer | 10046082 | **Pass** |
| B7024SVIAL | Gel Loading Dye, Purple (6X) | 10043909 | **Pass** |

| Assay Name/Specification | Lot # 10049893 |
|---|---|
| **Ligation and Recutting (Terminal Integrity)**<br>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 16ºC. Of these ligated fragments, >95% can be recut with FseI. | **Pass** |
| **Non-Specific DNase Activity (16 Hour)**<br>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 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | **Pass** |
| **Protein Purity Assay (SDS-PAGE)**<br>FseI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection. | **Pass** |
| **Endonuclease Activity (Nicking)**<br>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 37ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | **Pass** |

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| Assay Name/Specification | Lot # 10049893 |
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| **Exonuclease Activity (Radioactivity Release)**<br>A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [ $^{3}$H] E. coli DNA and a minimum of 10 units of FseI incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity. | **Pass** |

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

Stephanie Cornelio
Production Scientist
19 Jul 2019

Jay Minichiello
Packaging Quality Control Inspector
06 Aug 2019