

## New England Biolabs Certificate of Analysis

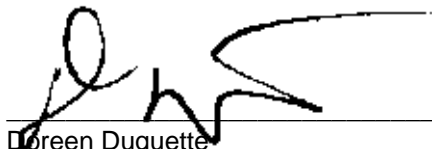
**Product Name:** CutSmart<sup>®</sup> Buffer  
**Catalog Number:** B7204S  
**Concentration:** 10 X Concentrate  
**Lot Number:** 10037873  
**Expiration Date:** 01/2022  
**Storage Temperature:** -20°C  
**Specification Version:** PS-B7204S v1.0  
**Composition (1X):** 50 mM Potassium Acetate, 20 mM Tris Acetate, 10 mM Magnesium Acetate, 100 µg/ml BSA, (pH 7.9 @ 25°C)

| CutSmart <sup>®</sup> Buffer Component List |                              |            |                      |
|---|------------------------------|------------|----------------------|
| NEB Part Number                             | Component Description        | Lot Number | Individual QC Result |
| B7204SVIAL                                  | CutSmart <sup>®</sup> Buffer | 10031567   | Pass                 |

| Assay Name/Specification  | Lot # 10037873 |
|---|----------------|
| <b>Conductivity (buffers/solutions)</b><br>The conductivity of 10X CutSmart <sup>®</sup> Buffer is between 40 and 46 mS at 25°C.  | Pass           |
| <b>Endonuclease Activity (Nicking, Buffer)</b><br>A 50 µl reaction in 1X CutSmart <sup>®</sup> Buffer containing 1 µg of supercoiled PhiX174 DNA incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.                        | Pass           |
| <b>Functional Testing (Restriction Digest, Buffer)</b><br>A 50 µl reaction in 1X CutSmart <sup>®</sup> Buffer containing 1 µg of Lambda dam- DNA and 1 unit of ClaI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis. | Pass           |
| <b>Functional Testing (Restriction Digest, Buffer)</b><br>A 50 µl reaction in 1X CutSmart <sup>®</sup> Buffer containing 1 µg of Lambda DNA and 1 unit of MscI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis.      | Pass           |
| <b>Non-Specific DNase Activity (16 hour, Buffer)</b><br>A 50 µl reaction in 1X CutSmart <sup>®</sup> Buffer containing 1 µg of PhiX174-HaeIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.   | Pass           |

| Assay Name/Specification   | Lot # 10037873 |
|--|----------------|
| <p><b>pH (buffers/solutions)</b><br/>The pH of 10X CutSmart<sup>®</sup> Buffer is between pH 7.8 and 8.0 at 25°C.</p>  | <b>Pass</b>    |
| <p><b>RNase Activity (Buffer)</b><br/>A 10 µl reaction in 1X CutSmart<sup>®</sup> Buffer containing 40 ng of a 300 base single-stranded RNA is incubated at 37°C. After incubation for 16 hours, &gt;90% of the substrate RNA remains intact as determined by fluorescent detection.</p> | <b>Pass</b>    |

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




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Doreen Duquette  
Production Scientist  
06 Feb 2019




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Michael Tonello  
Packaging Quality Control Inspector  
20 Feb 2019