

## New England Biolabs Certificate of Analysis

**Product Name:** rCutSmart™ Buffer  
**Catalog Number:** B6004S  
**Concentration:** 10 X Concentrate  
**Packaging Lot Number:** 10141083  
**Expiration Date:** 02/2025  
**Storage Temperature:** -20°C  
**Specification Version:** PS-B6004S/V v1.0  
**Composition (1X):** 50 mM Potassium Acetate, 20 mM Tris Acetate, 10 mM Magnesium Acetate, 100 µg/ml rAlbumin, (pH 7.9 @ 25°C)

| rCutSmart™ Buffer Component List |                       |            |                      |
|----------------------------------|-----------------------|------------|----------------------|
| NEB Part Number                  | Component Description | Lot Number | Individual QC Result |
| B6004SVIAL                       | rCutSmart™ Buffer     | 10136925   | Pass                 |

| Assay Name/Specification   | Lot # 10141083 |
|--|----------------|
| <b>Functional Testing (Restriction Digest, Buffer)</b><br>A 50 µl reaction in 1X rCutSmart™ 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>Functional Testing (Restriction Digest, Buffer)</b><br>A 50 µl reaction in 1X rCutSmart™ Buffer containing 1 µg of Lambda DNA and 1 unit of EcoRI-HF® 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 rCutSmart™ 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>Conductivity (buffers/solutions)</b><br>The conductivity of 10X rCutSmart™ Buffer is between 40 and 46 mS/cm at 25°C.   | Pass           |
| <b>RNase Activity (Buffer)</b><br>A 10 µl reaction in 1X rCutSmart™ Buffer containing 40 ng of a 300 base single-stranded RNA is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent     | Pass           |

| Assay Name/Specification   | Lot # 10141083 |
|--|----------------|
| detection.   |                |
| <p><b>pH (buffers/solutions)</b><br/>The pH of 10X rCutSmart™ Buffer is between pH 7.8 and 8.0 at 25°C.</p>  | <b>Pass</b>    |
| <p><b>Non-Specific DNase Activity (16 hour, Buffer)</b><br/>A 50 µl reaction in 1X rCutSmart™ 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.</p> | <b>Pass</b>    |
| <p><b>Endonuclease Activity (Nicking, Buffer)</b><br/>A 50 µl reaction in 1X rCutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>                   | <b>Pass</b>    |

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

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24 Feb 2022



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24 Feb 2022