

New England Biolabs Certificate of Analysis

Product Name: *rCutSmart™ Buffer*
Catalog Number: *B6004S*
Concentration: *10 X Concentrate*
Packaging Lot Number: *10206170*
Expiration Date: *08/2026*
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 | 10202497 | Pass |

| Assay Name/Specification | Lot # 10206170 |
|--|----------------|
| Conductivity (buffers/solutions) The conductivity of 10X rCutSmart™ Buffer is between 40 and 46 mS/cm at 25°C. | Pass |
| Endonuclease Activity (Nicking, Buffer) A 50 µl reaction in 1X rCutSmart™ 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 |
| Functional Testing (Restriction Digest, Buffer) 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 |
| Functional Testing (Restriction Digest, Buffer) 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 |
| Functional Testing (Restriction Digest, Buffer) 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 |

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|--|----------------|
| <p>Non-Specific DNase Activity (16 hour, Buffer) 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> | Pass |
| <p>RNase Activity (Buffer) 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 detection.</p> | Pass |
| <p>pH (buffers/solutions) The pH of 10X rCutSmart™ Buffer is between pH 7.8 and 8.0 at 25°C.</p> | Pass |

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

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Nancy Considine
Production Scientist
18 Aug 2023



Josh Hersey
Packaging Quality Control Inspector
01 Sep 2023