

## New England Biolabs Certificate of Analysis

**Product Name:** CutSmart<sup>®</sup> Buffer  
**Catalog Number:** B7204S  
**Concentration:** 10 X Concentrate  
**Lot Number:** 10022775  
**Expiration Date:** 08/2021  
**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	10018443	Pass

Assay Name/Specification	Lot # 10022775
<b>Conductivity (buffers/solutions)</b> The conductivity of 10X CutSmart <sup>®</sup> Buffer is between 40 and 46 mS at 25°C.	Pass
<b>Endonuclease Activity (Nicking, Buffer)</b> 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> 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> 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> 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 # 10022775
<p><b>pH (buffers/solutions)</b> 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> 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.



Tony Spear-Alfonso  
Production Scientist  
12 Sep 2018



Josh Hersey  
Packaging Quality Control Inspector  
17 Oct 2018