

## New England Biolabs Certificate of Analysis

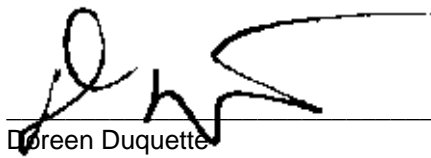
**Product Name:** CutSmart® Buffer  
**Catalog Number:** B7204S  
**Concentration:** 10 X Concentrate  
**Lot Number:** 10039418  
**Expiration Date:** 02/2022  
**Storage Temperature:** -20°C  
**Specification Version:** PS-B7204S v1.0  
**Composition (1X):** 50 mM Potassium Acetate, 20 mM Tris Acetate, 10 mM Magnesium Acetate, 100 µg/ml BSA, (pH 7.9 @ 25°C)

CutSmart® Buffer Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
B7204SVIAL	CutSmart® Buffer	10031568	Pass

Assay Name/Specification	Lot # 10039418
<b>Non-Specific DNase Activity (16 hour, Buffer)</b> A 50 µl reaction in 1X CutSmart® 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
<b>pH (buffers/solutions)</b> The pH of 10X CutSmart® Buffer is between pH 7.8 and 8.0 at 25°C.	Pass
<b>RNase Activity (Buffer)</b> A 10 µl reaction in 1X CutSmart® 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 fluorescent detection.	Pass
<b>Functional Testing (Restriction Digest, Buffer)</b> A 50 µl reaction in 1X CutSmart® 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>Conductivity (buffers/solutions)</b> The conductivity of 10X CutSmart® Buffer is between 40 and 46 mS at 25°C.	Pass
<b>Endonuclease Activity (Nicking, Buffer)</b>	Pass

Assay Name/Specification	Lot # 10039418
<p>A 50 µl reaction in 1X CutSmart® 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> <p><b>Functional Testing (Restriction Digest, Buffer)</b> A 50 µl reaction in 1X CutSmart® 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.</p>	<p><b>Pass</b></p>

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



Doreen Duquette  
Production Scientist  
07 Feb 2019



Michael Tonello  
Packaging Quality Control Inspector  
06 Mar 2019