Product Name:    Diluent A  
Catalog Number:  B8001S  
Concentration:   1 X Concentrate  
Packaging Lot Number:    10069211  
Expiration Date:    04/2022  
Storage Temperature:    -20°C  
Specification Version:    PS-B8001S v1.0  
Composition (1X):    10 mM Tris-HCl , 50 mM KCl , 1 mM DTT , 0.1 mM EDTA , 200 µg/ml BSA , 50 % Glycerol, (pH 7.4 @ 25°C)

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**Diluent A Component List**

<table>
<thead>
<tr>
<th>NEB Part Number</th>
<th>Component Description</th>
<th>Lot Number</th>
<th>Individual QC Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>B8001SVIAL</td>
<td>Diluent A</td>
<td>10042697</td>
<td>Pass</td>
</tr>
</tbody>
</table>

**Assay Name/Specification**

**RNase Activity (Extended Digestion)**  
A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of Diluent A 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.

**qPCR DNA Contamination (E. coli Genomic)**  
A minimum of 1 µl of Diluent A is screened for the presence of E. coli genomic DNA using SYBR® Green qPCR with primers specific for the E. coli 16S rRNA locus. Results are quantified using a standard curve generated from purified E. coli genomic DNA. The measured level of E. coli genomic DNA contamination is ≤ 1 E. coli genome.

**pH (buffers/solutions)**  
The pH of 1X Diluent A is between pH 7.3 and 7.5 at 25°C.

**Non-Specific DNase Activity (16 Hour)**  
A 50 µl reaction in CutSmart® Buffer containing 1 µg of PhiX174-HaeIII DNA and a minimum of 10 µl of Diluent A incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

**Endonuclease Activity (Nicking)**  
Pass
<table>
<thead>
<tr>
<th>Assay Name/Specification</th>
<th>Lot # 10069211</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 10 µl of Diluent A incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</td>
<td></td>
</tr>
</tbody>
</table>

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

Michael Dalton  
Production Scientist  
10 Apr 2020

Jay Minichiello  
Packaging Quality Control Inspector  
10 Apr 2020