New England Biolabs
Product Specification

**Product Name:** Alkaline Phosphatase, Calf Intestinal (CIP)

**Catalog #:** M0290S/L

**Concentration:** 10,000 units/ml

**Unit Definition:** One unit is defined as the amount of enzyme that hydrolyzes 1 µmol of p-Nitrophenyl Phosphate, PNPP in a total reaction volume of 1 ml in 1 minute at 37°C

**Shelf Life:** 24 months

**Storage Temp:** -20°C

**Storage Conditions:** 10 mM Tris-HCl, 50 mM KCl, 1 mM MgCl₂, 0.1 mM ZnCl₂, 50 % Glycerol, (pH 8.2 @ 25°C)

**Specification Version:** PS-M0290S/L v2.0

**Effective Date:** 11 Aug 2017

<table>
<thead>
<tr>
<th><strong>Assay Name/Specification</strong></th>
<th>(minimum release criteria)</th>
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</thead>
<tbody>
<tr>
<td>Endonuclease Activity (Nicking)</td>
<td>A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of Alkaline Phosphatase, Calf Intestinal (CIP) incubated for 4 hours at 37°C results in &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</td>
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<tr>
<td>Exonuclease Activity (Radioactivity Release)</td>
<td>A 50 µl reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 50 units of Alkaline Phosphatase, Calf Intestinal (CIP) incubated for 4 hours at 37°C releases &lt;0.1% of the total radioactivity.</td>
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<td>Non-Specific DNase Activity (16 Hour)</td>
<td>A 50 µl reaction in NEBuffer 4 containing 1 µg of PhiX174-HaeIII DNA and a minimum of 50 units of Alkaline Phosphatase, Calf Intestinal (CIP) incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</td>
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<tr>
<td>RNase Activity (Extended Digestion)</td>
<td>A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of Alkaline Phosphatase, Calf Intestinal (CIP) is incubated at 37°C. After incubation for 4 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</td>
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Derek Robinson
Director of Quality Control

Date 11 Aug 2017