

## New England Biolabs Certificate of Analysis

**Product Name:** Alkaline Phosphatase, Calf Intestinal (CIP)  
**Catalog Number:** M0290S  
**Concentration:** 10,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme that hydrolyzes 1  $\mu\text{mol}$  of p-Nitrophenyl Phosphate, PNPP in a total reaction volume of 1 ml in 1 minute at 37°C  
**Lot Number:** 10033018  
**Expiration Date:** 12/2020  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl, 50 mM KCl, 1 mM MgCl<sub>2</sub>, 0.1 mM ZnCl<sub>2</sub>, 50 % Glycerol, (pH 8.2 @ 25°C)  
**Specification Version:** PS-M0290S/L v2.0

Alkaline Phosphatase, Calf Intestinal (CIP) Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0290SVIAL	Alkaline Phosphatase, Calf Intestinal (CIP)	10024409	Pass
B7204SVIAL	CutSmart® Buffer	10021125	Pass

Assay Name/Specification	Lot # 10033018
<p><b>Endonuclease Activity (Nicking)</b>            A 50 <math>\mu\text{l}</math> reaction in CutSmart® Buffer containing 1 <math>\mu\text{g}</math> 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.</p>	Pass
<p><b>Exonuclease Activity (Radioactivity Release)</b>            A 50 <math>\mu\text{l}</math> reaction in CutSmart® Buffer containing 1 <math>\mu\text{g}</math> of a mixture of single and double-stranded [<sup>3</sup>H] 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.</p>	Pass
<p><b>Non-Specific DNase Activity (16 Hour)</b>            A 50 <math>\mu\text{l}</math> reaction in NEBuffer 4 containing 1 <math>\mu\text{g}</math> 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.</p>	Pass

Assay Name/Specification	Lot # 10033018
<p><b>RNase Activity (Extended Digestion)</b> 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.</p>	<p><b>Pass</b></p>

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



Tony Spear-Alfonso  
Production Scientist  
10 Dec 2018



Michael Tonello  
Packaging Quality Control Inspector  
03 Jan 2019