

## New England Biolabs Certificate of Analysis

**Product Name:** 5-hydroxythymidine DNA Kinase  
**Catalog Number:** M0659S  
**Concentration:** 20,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to protect 1 µg of *Bacillus subtilis* bacteriophage SP8 genomic DNA in ##30 minutes at 37°C in a total reaction volume of 20 µl against cleavage by NcoI-HF restriction endonuclease.  
**Lot Number:** 10052468  
**Expiration Date:** 05/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl, 300 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, (pH 7.4 @ 25°C)  
**Specification Version:** PS-M0659S v1.0

5-hydroxythymidine DNA Kinase Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0659SVIAL	5-hydroxymethyluridine DNA Kinase	10041596	Pass
B0202SVIAL	T4 DNA Ligase Reaction Buffer	10041768	Pass

Assay Name/Specification	Lot # 10052468
<p><b>Endonuclease Activity (Nicking)</b>            A 50 µl reaction in T4 DNA Ligase Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 units of 5-hydroxymethyluridine DNA Kinase 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 µl reaction in T4 DNA Ligase Reaction Buffer containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 20 units of 5-hydroxymethyluridine DNA Kinase 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 µl reaction in T4 DNA Ligase Reaction Buffer containing 1 µg of Lambda DNA and a minimum of 20 units of 5-hydroxymethyluridine DNA Kinase 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 # 10052468
<p><b>Protein Purity Assay (SDS-PAGE)</b> 5-hydroxymethyluridine DNA Kinase is <math>\geq</math> 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<p><b>Pass</b></p>

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



Jenna Ware  
Production Scientist  
03 Jun 2019



Josh Hersey  
Packaging Quality Control Inspector  
08 Oct 2019