

## New England Biolabs Certificate of Analysis

**Product Name:** yDcpS  
**Catalog Number:** M0463S  
**Concentration:** 200,000 U/ml  
**Unit Definition:** One unit is defined as the amount of yDcpS required to convert 50% of a 500 nM m7G-capped substrate to a 5'-diphosphorylated form in a total reaction volume of 20 µl in 1 hour at 37°C.  
**Packaging Lot Number:** 10167118  
**Expiration Date:** 10/2024  
**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-M0463S v1.0

| yDcpS Component List |                           |            |                      |
|----------------------|---------------------------|------------|----------------------|
| NEB Part Number      | Component Description     | Lot Number | Individual QC Result |
| M0463SVIAL           | yDcpS                     | 10167120   | Pass                 |
| B0463AVIAL           | 10X yDcpS Reaction Buffer | 10167828   | Pass                 |

| Assay Name/Specification   | Lot # 10167118 |
|--|----------------|
| <b>Protein Purity Assay (SDS-PAGE)</b><br>yDcpS is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.   | Pass           |
| <b>RNase Activity Assay (4 Hour Digestion)</b><br>A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 200 units of yDcpS is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection. | Pass           |
| <b>Exonuclease Activity (Radioactivity Release)</b><br>A 50 µl reaction in yDcpS Reaction Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 200 units of yDcpS incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.                                 | Pass           |
| <b>Endonuclease Activity (Nicking)</b><br>A 50 µl reaction in yDcpS Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 200 units of yDcpS incubated for 4 hours at 37°C results in <10%   | Pass           |

| Assay Name/Specification   | Lot # 10167118     |
|--|--------------------|
| <p>conversion to the nicked form as determined by agarose gel electrophoresis.</p> <p><b>Phosphatase Activity (pNPP)</b><br/>A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl<sub>2</sub> containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 200 units of yDcpS incubated for 4 hours at 37°C yields &lt;0.00001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.</p> | <p><b>Pass</b></p> |

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

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Jessica Cane  
Production Scientist  
11 Oct 2022



Michael Tonello  
Packaging Quality Control Inspector  
12 Oct 2022