

New England Biolabs Product Specification

<i>Product Name:</i>	<i>E. coli RNA Polymerase, Core Enzyme</i>
<i>Catalog #:</i>	<i>M0550S</i>
<i>Concentration:</i>	<i>1,000 units/ml</i>
<i>Unit Definition:</i>	<i>One unit is defined as the amount of enzyme required to incorporate 1 nmole NTP into RNA in 10 minutes at 37°C in the presence of sigma factor 70.</i>
<i>Shelf Life:</i>	<i>24 months</i>
<i>Storage Temp:</i>	<i>-20°C</i>
<i>Storage Conditions:</i>	<i>20 mM Tris-HCl, 100 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 7.5 @ 25°C)</i>
<i>Specification Version:</i>	<i>PS-M0550S v1.0</i>
<i>Effective Date:</i>	<i>13 Jun 2018</i>

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 µl reaction in NEBuffer 4 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 5 units of *E. coli* RNA Polymerase, Core Enzyme incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in NEBuffer 4 containing 1 µg of a mixture of single and double-stranded [³H] *E. coli* DNA and a minimum of 5 units of *E. coli* RNA Polymerase, Core Enzyme incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

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 unit of *E. coli* RNA Polymerase, Core Enzyme 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.



Date 13 Jun 2018

Derek Robinson
Director of Quality Control

