

## New England Biolabs Product Specification

*Product Name:*  $m^7G(5')ppp(5')G$  RNA Cap Structure Analog  
*Catalog #:* S1404S/L  
*Concentration:* 1  $\mu\text{mol}$   
*Shelf Life:* 36 months  
*Storage Temp:*  $-20^{\circ}\text{C}$   
*Storage Conditions:* Supplied as dried sodium salt.  
*Specification Version:* PS-S1404S/L v2.0  
*Effective Date:* 02 Nov 2021

### Assay Name/Specification (minimum release criteria)

**Functional Testing (Incorporation using RNA Polymerase)** - A 20  $\mu\text{l}$  reaction in RNA Polymerase Reaction Buffer in the presence of 4 mM NTPs +/-  $m^7G(5')ppp(5')G$  RNA Cap Structure Analog containing 2  $\mu\text{g}$  of template DNA and 50 units of T7 RNA Polymerase incubated for 2 hours at  $37^{\circ}\text{C}$  results in the expected product as determined by polyacrylamide gel electrophoresis.

**Molecular Weight Determination (Mass Spectrometry)** - The molecular weight of  $m^7G(5')ppp(5')G$  RNA Cap Structure Analog is between 802.4 and 804.4 as determined by mass spectrometry analysis.

**Physical Purity (HPLC)** -  $m^7G(5')ppp(5')G$  RNA Cap Structure Analog is  $\geq 95\%$  pure as determined by HPLC analysis.

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Derek Robinson  
Director, Quality Control

