

## New England Biolabs Certificate of Analysis

**Product Name:** ShortCut RNase III  
**Catalog Number:** M0245S  
**Concentration:** 2,000 U/ml  
**Unit Definition:** One unit is the amount of enzyme required to digest 1 µg of dsRNA to siRNA in 20 minutes at 37°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10211511  
**Expiration Date:** 09/2025  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl, 500 mM NaCl, 1 mM DTT, 0.5 mM EDTA, 50% Glycerol, (pH 8.0 @ 25°C)  
**Specification Version:** PS-M0245S/L v1.0

| ShortCut RNase III Component List |                          |            |                      |
|-----------------------------------|--------------------------|------------|----------------------|
| NEB Part Number                   | Component Description    | Lot Number | Individual QC Result |
| M0245SVIAL                        | ShortCut® RNase III      | 10207560   | Pass                 |
| B1564SVIAL                        | Glycogen RNase-free      | 10207562   | Pass                 |
| B0786AVIAL                        | MnCl <sub>2</sub>        | 10207561   | Pass                 |
| B0255AVIAL                        | 10X EDTA                 | 10207563   | Pass                 |
| B0245SVIAL                        | ShortCut Reaction Buffer | 10207564   | Pass                 |

| Assay Name/Specification  | Lot # 10211511 |
|---|----------------|
| <b>Exonuclease Activity (Radioactivity Release)</b><br>A 50 µl reaction in ShortCut® Reaction Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 10 units of ShortCut® RNase III incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.           | Pass           |
| <b>Non-Specific DNase Activity (16 Hour)</b><br>A 50 µl reaction in ShortCut® Reaction Buffer containing 1 µg of Lambda-HindIII DNA and a minimum of 6 units of ShortCut® RNase III incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | Pass           |
| <b>Protein Purity Assay (SDS-PAGE)</b><br>ShortCut® RNase III is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.  | Pass           |
| <b>RNase Activity (Extended Digestion)</b>  | Pass           |

| Assay Name/Specification   | Lot # 10211511 |
|--|----------------|
| A 10 µl reaction in ShortCut® Reaction Buffer containing 40 ng of a 300 base single-stranded RNA and a minimum of 2 units of ShortCut® RNase III is incubated at 37°C. After incubation for 1 hour, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection. |                |

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

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