

## New England Biolabs Certificate of Analysis

**Product Name:** *Ph.D.<sup>™</sup> Peptide Display Cloning System*  
**Catalog Number:** *E8101S*  
**Lot Number:** *10052764*  
**Expiration Date:** *08/2021*  
**Storage Temperature:** *-20°C*  
**Specification Version:** *PS-E8101S v1.0*

| Ph.D. <sup>™</sup> Peptide Display Cloning System Component List |                           |            |                      |
|--|---------------------------|------------|----------------------|
| NEB Part Number  | Component Description     | Lot Number | Individual QC Result |
| S1203AVIAL   | M13 Extension Primer      | 10052766   | Pass                 |
| N3541SVIAL   | M13KE gIII Cloning Vector | 10052765   | Pass                 |

| Assay Name/Specification   | Lot # 10052764 |
|--|----------------|
| <b>DNA Concentration (A260)</b><br>The concentration of M13KE gIII Cloning Vector is between 1000 and 1050 µg/ml as determined by UV absorption at 260 nm.   | <b>Pass</b>    |
| <b>Electrophoretic Pattern (Plasmid)</b><br>The banding pattern of M13KE gIII Cloning Vector on a 1.2% agarose gel is evaluated against a control lot for sharpness and relative intensity as determined by gel electrophoresis using Ethidium Bromide.  | <b>Pass</b>    |
| <b>Functional Testing (PCR)</b><br>The performance of the Ph.D. <sup>™</sup> Peptide Display Cloning System is tested in a 25 µl PCR reaction using 1 ng M13KE gIII Cloning Vector as the substrate, 0.0125 nmol M13KE Extension Primer and 0.0125 nmol reverse primer (5-CCC ATG TAC CGT AAC ACT GAGTTTC-3) for 25 cycles of PCR resulting in the expected 194 bp product as determined by agarose gel electrophoresis. | <b>Pass</b>    |
| <b>Non-Specific DNase Activity (DNA, 16 hour)</b><br>A 50 µl reaction in 1X NEBuffer 2 containing 2.5 µg of M13KE gIII Cloning Vector incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.  | <b>Pass</b>    |
| <b>A260/A280 Assay</b><br>The ratio of UV absorption of M13KE gIII Cloning Vector at 260 and 280 nm is between 1.8 and 2.0.  | <b>Pass</b>    |

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

*Beth M. Paschal*

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Beth Paschal  
Production Scientist  
21 Aug 2019

*Michael Tonello*

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Michael Tonello  
Packaging Quality Control Inspector  
30 Aug 2019