

## New England Biolabs Certificate of Analysis

**Product Name:** *Ph.D.™ Peptide Display Cloning System*  
**Catalog Number:** *E8101S*  
**Packaging Lot Number:** *10245191*  
**Expiration Date:** *06/2026*  
**Storage Temperature:** *-20°C*  
**Specification Version:** *PS-E8101S v1.0*

Ph.D.™ Peptide Display Cloning System Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
S1203AVIAL	M13 Extension Primer	10245190	Pass
N3541SVIAL	M13KE gIII Cloning Vector	10245189	Pass

Assay Name/Specification	Lot # 10245191
<b>A260/A280 Assay</b> 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>
<b>DNA Concentration (A260)</b> 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> 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> The performance of the Ph.D.™ 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> 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>

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit [www.neb.com/trademarks](http://www.neb.com/trademarks) for additional information.

*Beth M. Paschal*

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Beth Paschal  
Production Scientist  
17 Jun 2024

*Michael Tonello*

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Michael Tonello  
Packaging Quality Control Inspector  
27 Jun 2024