

New England Biolabs Product Specification

Product Name: *Ph.D.[™]-7 Phage Display Peptide Library Kit v2*

Catalog #: *E8211S*

Kit Components: *Ph.D.[™]-7 Phage Display Peptide Library (E8102) — Store at -20°C*
-96 gIII Sequencing Primer (20-mer) (S1259) — Store at -20°C
E. coli K12 ER2738 (E4104) — Store at -80°C
DYKDDDDK Mouse mAb (E8004) — Store at -20°C
Protein G Magnetic Beads (S1430) — Store at 4°C

Shelf Life: *24 months*

Storage Temp: *Multi-temperature*

Specification Version: *PS-E8211S v2.0*

Effective Date: *19 May 2022*

Assay Name/Specification (minimum release criteria)

Absolute Phage Titer - Infection of a mid-log culture of *E. coli* ER2738 with Ph.D.[™]-7 Phage Display Peptide Library followed by plating, yields $\geq 1 \times 10^{13}$ pfu/ml.

Functional Testing (Panning) - A 100-fold representation of the Ph.D.[™]-7 Phage Display Peptide Library containing approximately 10^{11} pfu is diluted in 200 μ l TBS and panned against 300 ng β -endorphin monoclonal antibody. The bound phage is affinity captured using magnetic beads and eluted with 1 ml of 0.2M Glycine-HCl, pH 2.2. After three rounds of selection, $\geq 75\%$ of sequences contain a motif related to the known epitope for the antibody.

Phage Contamination (Environmental) - A 1:100 dilution of an overnight culture of *E. coli* ER2738 was made in 20 ml LB, to which 10^3 pfu of Ph.D.[™]-7 Phage Display Peptide Library was added. The flask was incubated at 37°C on a rotating shaker for 5 hours. A 1 ml volume of culture was removed and centrifuged. A volume of culture supernatant equivalent to the initial pfu input was added to a second, 20 ml culture like the first. The final culture supernatant was plated on three LB/IPTG/Xgal plates and then titered. Fewer than 20% clear plaques were observed in a minimum of 100 total plaques counted on each plate.

Sequence Verification (DNA) - The Ph.D.[™]-7 Phage Display Peptide Library was sequenced using 5'-CCCATGTACCGTAACACTGAGTTTC-3' as a primer to confirm the correct form of the cloned insert on the displayed peptide, X₇-GGG.

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Date 19 May 2022

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