

## New England Biolabs Product Specification

*Product Name:* NEBNext<sup>®</sup> Ultra<sup>™</sup> II Q5<sup>®</sup> Master Mix  
*Catalog #:* M0544S/L/X  
*Shelf Life:* 18 months  
*Storage Temp:* -20°C  
*Specification Version:* PS-M0544S/L/X v3.0  
*Effective Date:* 15 Jun 2021

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

**Functional Testing (Multiplex PCR, Bead Inhibition)** - A 50 µl reaction in 1X NEBNext<sup>®</sup> Ultra<sup>™</sup> II Q5<sup>®</sup> Master Mix and 0.5 µM 3-plex primer mix containing 20 ng Human Genomic DNA for 30 cycles of PCR amplification results in the expected three amplicons and no inhibition of amplification in the presence of the beads.

**Non-Specific DNase Activity (16 hour, Buffer)** - A 50 µl reaction in 1X NEBNext Ultra II Q5 Master Mix containing 1 µg of T3 or T7 DNA in addition to a reaction containing Lambda-HindIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

**Phosphatase Activity (pNPP)** - A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl<sub>2</sub> containing 2.5 mM *p*-Nitrophenyl Phosphate (pNPP) and a minimum of 20 µl of NEBNext<sup>®</sup> Ultra<sup>™</sup> II Q5<sup>®</sup> Master Mix incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.

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