

## New England Biolabs Product Specification

**Product Name:** NEB® 5-alpha Competent *E. coli* (High Efficiency)  
**Catalog #:** C2987H/I  
**Shelf Life:** 12 months  
**Storage Temp:** -80°C  
**Specification Version:** PS-C2987H/I v2.0  
**Effective Date:** 15 Jan 2025

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

**Antibiotic Sensitivity (Ampicillin)** - 15 µl of untransformed NEB® 5-alpha Competent *E. coli* (High Efficiency) streaked onto a Rich Broth plate containing Ampicillin will not form colonies after incubation for 16 hours at 37°C.

**Antibiotic Sensitivity (Chloramphenicol)** - 15 µl of untransformed NEB® 5-alpha Competent *E. coli* (High Efficiency) streaked onto a Rich Broth plate containing Chloramphenicol will not form colonies after incubation for 16 hours at 37°C.

**Antibiotic Sensitivity (Kanamycin)** - 15 µl of untransformed NEB® 5-alpha Competent *E. coli* (High Efficiency) streaked onto a Rich Broth plate containing Kanamycin will not form colonies after incubation for 16 hours at 37°C.

**Antibiotic Sensitivity (Nitrofurantoin)** - 15 µl of untransformed NEB® 5-alpha Competent *E. coli* (High Efficiency) streaked onto a Rich Broth plate containing Nitrofurantoin will not form colonies after incubation for 16 hours at 37°C.

**Antibiotic Sensitivity (Spectinomycin)** - 15 µl of untransformed NEB® 5-alpha Competent *E. coli* (High Efficiency) streaked onto a Rich Broth plate containing Spectinomycin will not form colonies after incubation for 16 hours at 37°C.

**Antibiotic Sensitivity (Streptomycin)** - 15 µl of untransformed NEB® 5-alpha Competent *E. coli* (High Efficiency) streaked onto a Rich Broth plate containing Streptomycin will not form colonies after incubation for 16 hours at 37°C.

**Antibiotic Sensitivity (Tetracycline)** - 15 µl of untransformed NEB® 5-alpha Competent *E. coli* (High Efficiency) streaked onto a Rich Broth plate containing Tetracycline will not form colonies after incubation for 16 hours at 37°C.

**Blue-White Screening (α-complementation, Competent Cells)** - NEB® 5-alpha Competent *E. coli* (High Efficiency) were shown to be suitable for blue/white screening by α-complementation of the β-galactosidase gene using pUC19.

**Phage Resistance (Φ 80)** - 15 µl of untransformed NEB® 5-alpha Competent *E. coli* (High Efficiency) streaked onto a Rich Broth plate does not support plaque formation by phage Φ 80 after incubation for 16 hours at 37°C.

**Transformation Efficiency** - 50 µl of NEB® 5-alpha Competent *E. coli* (High Efficiency) cells were transformed with 100 pg of pUC19 DNA using the transformation protocol provided. Incubation overnight on LB-Ampicillin plates at 37°C resulted in >1 x 10<sup>9</sup> cfu/µg of DNA.

---

## New England Biolabs Product Specification

*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.*



Date 15 Jan 2025

---

Doreen Duquette  
Quality Approver

