New England Biolabs
Product Specification

Product Name: DpnII
Catalog #: R0543S/L
Concentration: 10,000 units/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 μg of Lambda DNA (dam-) in 1 hour at 37°C in a total reaction volume of 50 µl.

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 µl reaction in NEBuffer DpnII containing 1 µg of supercoiled PhiX174 DNA and a minimum of 30 Units of DpnII incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in NEBuffer DpnII containing 1 µg of a mixture of single and double-stranded [ ³H] E. coli DNA and a minimum of 100 units of DpnII incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

Ligation and Recutting (Terminal Integrity) - After a 20-fold over-digestion of Lambda dam- DNA with DpnII, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with DpnII.

Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in NEBuffer DpnII containing 1 µg of Lambda dam- DNA and a minimum of 100 units of DpnII incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

Protein Purity Assay (SDS-PAGE) - DpnII is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.

* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (# R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.

Date 01 May 2013

Derek Robinson
Director of Quality Control