

New England Biolabs Certificate of Analysis

Product Name: *Stul*
Catalog Number: *R0187M*
Concentration: *100,000 U/ml*
Unit Definition: *One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 µl.*
Packaging Lot Number: *10064687*
Expiration Date: *12/2021*
Storage Temperature: *-20°C*
Storage Conditions: *50 mM KCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA*
Specification Version: *PS-R0187M v1.0*

Stul Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0187MVIAl	Stul	10060534	Pass
B7204SVIAl	CutSmart® Buffer	10064409	Pass
B7024SVIAl	Gel Loading Dye, Purple (6X)	10064412	Pass

Assay Name/Specification	Lot # 10064687
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 300 units of Stul incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Blue-White Screening (Terminal Integrity) A sample of Litmus 28i vector linearized with a 10-fold excess of Stul, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with Stul, >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 Stul.	Pass
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 100 Units of Stul incubated for 16 hours at 37°C results in a DNA pattern free of	Pass

Assay Name/Specification	Lot # 10064687
detectable nuclease degradation as determined by agarose gel electrophoresis.	
Protein Purity Assay (SDS-PAGE) Stul is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass
Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled pBR322 DNA and a minimum of 10 Units of Stul incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass

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



Anthony Francis
Production Scientist
11 Feb 2020



Michael Tonello
Packaging Quality Control Inspector
11 Feb 2020