

New England Biolabs Certificate of Analysis

Product Name: Zral
Catalog Number: R0659S
Concentration: 10,000 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: 10070950
Expiration Date: 04/2022
Storage Temperature: -20°C
Storage Conditions: 300 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 500 µg/ml BSA
Specification Version: PS-R0659S/L v1.0

Zral Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0659SVIAL	Zral	10070948	Pass
B7204SVIAL	CutSmart® Buffer	10074630	Pass

Assay Name/Specification	Lot # 10070950
Protein Purity Assay (SDS-PAGE) Zral 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 M13mp18 DNA and a minimum of 10 units of Zral incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
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 100 units of Zral incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with Zral, >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 Zral.	Pass

Assay Name/Specification	Lot # 10070950
<p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 10 Units of Zral incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	<p>Pass</p>

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



Penghua Zhang
Production Scientist
27 May 2020



Michael Tonello
Packaging Quality Control Inspector
27 May 2020