NEW ENGLAND BioLabs Inc.
be INSPIRED drive DISCOVERY stay GENUINE
240 County Road
Ipswich, MA 01938-2723
Tel 978-927-5054
Fax 978-921-1350
www.neb.com
info@neb.com

New England Biolabs
Certificate of Analysis

Product Name:	*ZraI*
Catalog Number:	*R0659L*
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.*
Lot Number:	*10053679*
Expiration Date:	*09/2021*
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*

ZraI Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
R0659LVIAL	ZraI	10053678	**Pass**
B7204SVIAL	CutSmart® Buffer	10053981	**Pass**

Assay Name/Specification	Lot # 10053679
Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with ZraI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16ºC. Of these ligated fragments, >95% can be recut with ZraI.	**Pass**
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 ZraI incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	**Pass**
Protein Purity Assay (SDS-PAGE) ZraI 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 ZraI incubated for 4 hours at 37ºC results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**

NEW ENGLAND BioLabs Inc.
be INSPIRED drive DISCOVERY stay GENUINE
240 County Road
Ipswich, MA 01938-2723
Tel 978-927-5054
Fax 978-921-1350
www.neb.com
info@neb.com

Assay Name/Specification	Lot # 10053679
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 ZraI incubated for 4 hours at 37ºC releases <0.1% of the total radioactivity.	**Pass**

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

Jianying Luo
Production Scientist
06 Sep 2019

Michael Tonello
Packaging Quality Control Inspector
24 Sep 2019