

SMART-Seq® Mouse TCR (with UMIs)

Catalog Nos.	Amount	Lot Number
634815	24 rxns	Specified on product label.
634816 (also sold as part of 634814)	96 rxns	Specified on product label.

Description

SMART-Seq Mouse TCR (with UMIs) enables users to analyze mouse T-cell receptor (TCR) diversity using as input purified high-integrity RNA (RIN>7) or whole intact cells. The full kit is designed to work with a range of RNA input amounts depending on the sample type and has been shown to generate high-quality libraries from 1 ng–1 µg of total RNA obtained from mouse spleen or T cells; 10 ng–1 µg of total RNA obtained from mouse whole blood, bone marrow, or thymus; or from 100–10,000 purified mouse T cells. The kit can be used to generate data for both alpha- and beta-chain diversity, either in the same experiment or separately. It leverages SMART® (Switching Mechanism at 5' end of RNA Template) technology and employs a 5' RACE-like approach to capture complete V(D)J variable regions of TCR transcripts.

The workflow incorporates unique molecular identifiers (UMIs), providing greater accuracy for clonotype identification and counting. Using the Unique Dual Index kits (Cat. Nos. 634752–634756, sold separately), the protocol can generate up to 384 multiplexed libraries that are ready for sequencing on any Illumina® platform.

Package Contents

Package 1:

<u>634815</u> (24 rxns)	<u>634816</u> (96 rxns)	
5 µl	5 µl	Control RNA (1 µg/µl)
30 µl	120 µl	TCR SMART UMI Oligo (48 µM)

Package 2:

<u>634815</u> (24 rxns)	<u>634816</u> (96 rxns)	
230 µl	920 µl	10X Lysis Buffer
96 µl	384 µl	5X Ultra® Low First-Strand Buffer
48 µl	192 µl	TCR dT Primer (12 µM)
48 µl	192 µl	SMARTScribe™ Reverse Transcriptase (100 U/µl)
60 µl	240 µl	RNase Inhibitor (40 U/µl)
1.7 ml	4 x 1.7 ml	Elution Buffer (10 mM)
1.7 ml	4 x 1.7 ml	Nuclease-Free Water
2 x 1 ml	8 x 1 ml	PrimeSTAR® GXL Premix (2X)

(continued on page 2)

Certificate of Analysis

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<u>634815</u> (24 rxns)	<u>634816</u> (96 rxns)	
24 µl	96 µl	mTCR PCR1 Universal Forward (12 µM)
24 µl	96 µl	mTCRa PCR1 Reverse (12 µM)
24 µl	96 µl	mTCRb PCR1 Reverse (12 µM)
24 µl	96 µl	mTCRa PCR2 UDI Reverse (12 µM)
24 µl	96 µl	mTCRb PCR2 UDI Reverse (12 µM)

Storage Conditions

- Store Control RNA and TCR SMART UMI Oligo at -70°C .
- Store 10X Lysis Buffer and Elution Buffer at -20°C . Once thawed, they can be stored at 4°C .
- Store all other reagents at -20°C .

Expiration Date

- Specified on product label.

Shipping Conditions

- Dry ice

Product Documents

Documents for our products are available for download at takarabio.com/manuals

The following documents apply to this product:

- SMART-Seq Mouse TCR (with UMIs) User Manual

Quality Control Data

A sample kit from each lot was tested as follows: 1 ng of Control RNA (Mouse Spleen Total RNA) was subjected to first-strand cDNA synthesis as described in the SMART-Seq Mouse TCR (with UMIs) User Manual. The first-strand cDNA was then used as template for 21 cycles of PCR. 1 µl of this PCR product was amplified by nested PCR for 24 additional cycles. The final sequencing library was purified with NucleoMag NGS Clean-Up and Size Select (Takara Bio, Cat. No. 744970.5, 744970.50, or 744970.500) and resuspended in 17 µl of Elution Buffer. The final library concentration was measured by Qubit with 1 ng RNA input yielding >4 ng/µl. The library was analyzed with an Agilent 2100 Bioanalyzer and DNA High Sensitivity Kit (Agilent Technologies, Cat. No. 5067-4626). The resultant analysis indicated the TCR library size range was approximately 570–770 bp (670 bp \pm 100 bp). The area containing the peaks was manually integrated from 400–1,400 bp.

It is certified that this product meets the above specifications, as reviewed and approved by the Quality Department.

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CATALOG NOS.

634815 & 634816

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Our products are to be used for **Research Use Only**. They may not be used for any other purpose, including, but not limited to, use in humans, therapeutic or diagnostic use, or commercial use of any kind. Our products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products or to provide a service to third parties without our prior written approval.

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STATEMENT 392

This product is protected by U.S. Patent Nos. 10,941,397 and 10,954,510 and European Patent No. 1485394804 and Japanese Patent No. 2016-524004 and corresponding U.S. pending patents and other foreign patents pending. For further license information, please contact a Takara Bio USA licensing representative by email at licensing@takarabio.com.

STATEMENT 426

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