

SMARTer® Human scTCR a/b Profiling Kit Components

Catalog Nos.	Amount	Lot Number
634433 (Not sold separately; Sold as a part of 634431)	96 rxns	Specified on product label.
634434 (Not sold separately; Sold as a part of 634432)	480 rxns	Specified on product label.

Description

The SMARTer Human scTCR a/b Profiling Kit Components are part of the SMARTer Human scTCR a/b Profiling Kit (Cat. Nos. 634431 & 634432), which enables users to analyze T-cell receptor (TCR) diversity from single cells. The full kit is designed to work with T cells that have been sorted into a 96-well plate and can be used to generate data for both alpha- and beta-chain diversity.

Package Contents

Package 1:

<u>634433</u> (96 rxns)	<u>634434</u> (480 rxns)	
5 µl	5 µl	Control Jurkat Total RNA (1 µg/µl)
10 µl	50 µl	SMART-Seq® Indexed Oligo A (48 µM)
10 µl	50 µl	SMART-Seq Indexed Oligo B (48 µM)
10 µl	50 µl	SMART-Seq Indexed Oligo C (48 µM)
10 µl	50 µl	SMART-Seq Indexed Oligo D (48 µM)
10 µl	50 µl	SMART-Seq Indexed Oligo E (48 µM)
10 µl	50 µl	SMART-Seq Indexed Oligo F (48 µM)
10 µl	50 µl	SMART-Seq Indexed Oligo G (48 µM)
10 µl	50 µl	SMART-Seq Indexed Oligo H (48 µM)

Package 2:

<u>634433</u> (96 rxns)	<u>634434</u> (480 rxns)	
112 µl	560 µl	RT Primer (12 µM)
250 µl	1.25 ml	5X Ultra® Low First-Strand Buffer
112 µl	560 µl	SMARTscribe™ Reverse Transcriptase (100 U/µl)
2 ml	10 ml	Nuclease-Free Water
250 µl	1.25 ml	RNase Inhibitor (40 U/µl)
500 µl	2.5 ml	10X Lysis Buffer
500 µl	2.5 ml	Elution Buffer (10 mM Tris-Cl, pH 8.5)
28 µl	140 µl	SMART cDNA Primer (12 µM)
28 µl	140 µl	cDNA Primer (12 µM)
56 µl	280 µl	cDNA Amplification Polymerase
1.4 ml	7 ml	cDNA Amplification Buffer (2X)

continued on Page 2

Takara Bio USA, Inc.

2560 Orchard Parkway, San Jose, CA 95131, USA

U.S. Technical Support: technical_support@takarabio.com

United States/Canada
800.662.2566
(080923)

Asia Pacific
+1.650.919.7300

Europe
+33.(0)1.3904.6880

Japan
+81.(0)77.565.6999

Certificate of Analysis

Cat. Nos. 634433 & 634434

SMARTer Human scTCR a/b Profiling Kit Components (Not sold separately)

Sold as a part of 634431 & 634432

<u>634433</u> (96 rxns)	<u>634434</u> (480 rxns)	
14 µl	70 µl	TCRa Human Primer 1 (12 µM)
14 µl	70 µl	TCRb Human Primer 1 (12 µM)
14 µl	70 µl	TCR Primer 1 (12 µM)
30 µl	150 µl	TCR Amplification Polymerase (1.25 U/µl)
300 µl	1.5 ml	TCR Amplification Buffer (5X)
120 µl	600 µl	TCR Amplification dNTP Mixture (2.5 mM each)

Storage Conditions

- Store Package 1, Control Jurkat Total RNA, and SMART-Seq Indexed Oligos at -70°C .
- Store 10X Lysis Buffer and Nuclease-Free Water at -20°C . Once thawed, they can each be stored at 4°C .
- Store Elution Buffer at -20°C . Once thawed, the buffer can be stored at room temperature.
- 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:

- SMARTer Human scTCR a/b Profiling Kit User Manual

Quality Control Data

A sample kit from each lot was tested as follows: 8 x 5 pg of Control Jurkat Total RNA were subjected to first-strand cDNA synthesis, with each 5 pg sample using a different SMART-Seq Indexed Oligo, as described in the SMARTer Human scTCR a/b Profiling Kit User Manual. The first-strand cDNA was then amplified with 16 cycles of PCR. The resulting double-stranded cDNA for the 8 samples was pooled and purified with an Agencourt AMPure XP Kit (Beckman Coulter, Part No. A63880 or A63881), and resuspended in 17 µl of Elution Buffer. 1 µl of the amplified cDNA was analyzed with an Agilent 2100 Bioanalyzer and a High Sensitivity DNA Kit (Agilent Technologies, Cat. No. 5067-4626). The analysis indicated that the cDNA profile produced a broad peak spanning 400–8,000 bp. The area containing the peak was manually integrated from 700–9,000 bp, and the concentration of this region in pg/µl was determined by the Bioanalyzer software. Final cDNA yields were greater than 100 pg/µl.

500 pg of purified cDNA was used as a template for 16 cycles of TCR-specific PCR. 1 µl of the resulting double-stranded cDNA was amplified by nested PCR for 14 additional cycles. The final sequencing library was then purified with an Agencourt AMPure XP Kit and resuspended in 17 µl of Elution Buffer. 1 µl of the sequencing library was analyzed with an Agilent 2100 Bioanalyzer and a DNA 1000 Kit (Agilent Cat No. 5067-1504). The analysis indicated that the TCR library profile produced a broad peak spanning 650–1,100 bp, with the peak maximum at approximately 700 bp. The area containing the peak was manually integrated from 550–1,200 bp, and the concentration of this region in nmol/l (nM) was determined by the Bioanalyzer software. Final library outputs were greater than 4 nmol/l (nM).

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

SMARTer® Human scTCR a/b Profiling Kit Components

CATALOG NOS.

634433 & 634434

NOTICE TO PURCHASER:

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.

Your use of this product is also subject to compliance with the licensing requirements, listed below if applicable, and described on the product's web page at <http://www.takarabio.com>. It is your responsibility to review, understand and adhere to any restrictions imposed by these statements.

STATEMENT 325

Patent pending. For further information, please contact a Takara Bio USA licensing representative by email at licensing@takarabio.com.

TRADEMARKS:

©2023 Takara Bio Inc. All Rights Reserved.

All trademarks are the property of Takara Bio Inc. or its affiliate(s) in the U.S. and/or other countries or their respective owners. Certain trademarks may not be registered in all jurisdictions.

Takara Bio USA, Inc.

2560 Orchard Parkway, San Jose, CA 95131, USA

U.S. Technical Support: technical_support@takarabio.com

United States/Canada

800.662.2566

Asia Pacific

+1.650.919.7300

Europe

+33.(0)1.3904.6880

Japan

+81.(0)77.565.6999

8/9/2023