

SMART-Seq® mRNA Long Read

Catalog Nos.	Amount	Lot Number
634377	24 rxns	Specified on product label.
634376	96 rxns	Specified on product label.

Description

SMART-Seq mRNA Long Read generates high-quality full-length cDNA from ultra-low amounts of total RNA (10 pg–100 ng) or directly from 1–1,000 intact cells. SMART® (Switching Mechanism at 5' end of RNA Template) technology offers unparalleled sensitivity and unbiased amplification of cDNA transcripts. It enriches full-length transcripts and maintains the true representation of mRNA from the original sample, which are critical factors for transcriptome sequencing and gene expression analysis. Through incorporation of unique barcodes during PCR1 and pooling the samples after PCR2, the kit allows for multiplexing of up to 96 rxns. When paired with the Ligation Sequencing Kit V14 (Oxford Nanopore Technologies [ONT], Cat. No. SQK-LSK114), the kit enables low-input RNA sequencing on ONT sequencing platforms.

NOTE: Prior to use, spin kit reagents in a tabletop centrifuge to bring the contents to the bottom of the wells.

Package Contents

Package 1:

<u>634377</u> (24 rxns)	<u>634376</u> (96 rxns)	
5 µl	5 µl	Control Total RNA (1 µg/µl)

Package 2:

<u>634377</u> (24 rxns)	<u>634376</u> (96 rxns)	
12 µl	48 µl	SMART-Seq LR TSO (100 µM)
48 µl	192 µl	SMART-Seq LR Oligo-dT (10 µM)
96 µl	384 µl	5X Ultra® Low First-Strand Buffer
48 µl	192 µl	SMARTScribe™ Reverse Transcriptase (100 U/µl)
10 µl	20 µl	TRH (200 U/µl)
24 µl	96 µl	SMART-Seq LR Primer 1 (12 µM)
24 µl	96 µl	SMART-Seq LR Primer 2 (12 µM)
60 µl	240 µl	RNase Inhibitor (40 U/µl)
2 x 1 ml	4 ml	Nuclease-Free Water
460 µl	1.85 ml	10X Lysis Buffer
2 x 1.7 ml	2 x 6.8 ml	Elution Buffer (10 mM Tris-HCl, pH 8.5)
50 µl	200 µl	SeqAmp™ DNA Polymerase
1.25 ml	5 ml	SeqAmp CB PCR Buffer (2X)
5 µl x 24	5 µl x 96	SMART-Seq LR Index Plate (12.5 µM)

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

Storage Conditions

- Store Control Total RNA at -70°C .
- Store 10X Lysis Buffer at -20°C . Once thawed, the buffer can 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 . Do not freeze-thaw SMART-Seq LR Index Plate more than 12 times.

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 mRNA Long Read User Manual

Quality Control Data

A sample kit from each lot was tested as follows: 10 ng of Control Total RNA was subjected to first-strand cDNA synthesis as described in the user manual. The first-strand cDNA was then used as a template for PCR 1. PCR products were purified with NucleoMag NGS Clean-up and Size Select (Takara Bio, Cat. No. 744970.5) and resuspended in 23 μl of Elution Buffer. 20 μl of eluted cDNA was used for PCR 2 to enrich for barcoded fragments. PCR products were purified with NucleoMag NGS Clean-up and Size Select and resuspended in 17 μl of Elution Buffer.

Samples were pooled, and a 1 μl diluted aliquot of the pool was analyzed with an Agilent 2100 Bioanalyzer and a High Sensitivity DNA Kit (Agilent Technologies, Cat. No. 5067-4626). The resultant analysis indicated a cDNA size range of approximately 200–10,000 bp, with a summit between 1,800 bp and 3,500 bp. A peak was manually integrated from 400–10,000 bp. To measure the cDNA concentration, 2 μl of the pool were used for the Qubit dsDNA HS Assay (ThermoFisher Scientific, Cat. No. Q33231). The concentration as measured by the Qubit dsDNA HS Assay was multiplied by 50. cDNA yield was >135 fmol in 50 μl .

Sequencing libraries were prepared using the Ligation Sequencing Kit V14 (ONT, Cat. No. SQK-LSK114) according to manufacturer's instructions. Final libraries were loaded on a MinION Flow Cell (R10.4.1) and sequenced for 12 hr. Reads were base-called and demultiplexed, generating uniform representation of all the barcodes ($<10\%$ fold change).

This document has been reviewed and approved by the Quality Department.

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CATALOG NOS.

634376 & 634377

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 M82

This product is covered by the claims of US patent No. 10,760,074 and its foreign counterparts.

TRADEMARKS:

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