

## SwiftScript cDNA Synthesis Kit

P. Code	Reactions	Volume	Component	Description	Lot Number	Expiry
SSRB-0.5	50	200 µL	5x SwiftScript Reaction Buffer	5x Concentrated cDNA Synthesis Reaction Buffer		
SSEM-0.1	50	50 µL	20x SwiftScript Enzyme Mix	20x Concentrated Reverse Transcriptase/RNase Inhibitors Mix		
5JWA-1	50	1 mL	Just Water	Nuclease-Free, Molecular Grade Water		

### Applications

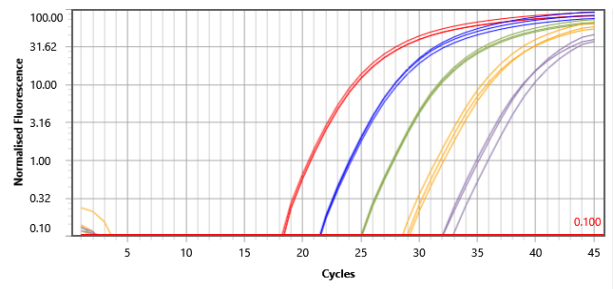
- Unbiased, efficient cDNA synthesis from a variety of RNA templates with complex secondary structure (mRNA, total RNA, viral RNA)
- Permits simultaneous analysis of multiple genes from a single RNA source
- Allows success in downstream applications such as gene expression analysis via real-time and endpoint RT-PCR, labelled-cDNA probe generation and cDNA library construction

### Product Description

The SwiftScript cDNA Synthesis Kit is a highly efficient, simple-to-use system for reverse transcription of RNA into first-strand cDNA, circumventing the need for tedious reaction optimisation. The SwiftScript Enzyme Mix contains a highly active and thermostable Reverse Transcriptase (with no detectable RNase H activity) combined with RNase Inhibitors to ensure rapid and reliable polymerisation from RNA transcripts with complex secondary structure. The SwiftScript Reaction Buffer includes optimal concentrations of magnesium, dNTPs and a combination of anchored oligo(dT), random hexamers and enhancers for consistent, unbiased synthesis from both total and poly-A+ selected RNA. Along with our nuclease-free, molecular-biology-grade Just Water, this kit contains everything needed to generate high quality cDNA for use in multiple downstream applications.

### Key Features

- Simple—everything needed to generate high quality cDNA from a variety of RNA templates, including difficult-to-transcribe GC-rich regions and complex secondary structures
- Efficient—thermostable reverse transcriptase has improved processivity, and its activity at higher temperatures eliminates the need for an RNA denaturation step prior to primer annealing, permitting a rapid 25 minute processing time
- Effective—Optimised reaction buffer contains long anchored oligo (dT) and random primers for more robust, consistent priming across the entire RNA template, allowing the reverse transcriptase to reliably synthesise cDNA at an increased temperature, resulting in greater specificity, better resolution of complex secondary structures, and higher overall yields



cDNA generated using SwiftScript cDNA Synthesis kit, serially diluted, shows excellent linearity. 5X 1 in 10 dilution series of a high concentration sample, PCR amplified using MegaMix Emerald. B2M gene, BMS MIC.

### Protocol

This product is to be used as follows:

Thaw all reagents completely and store on ice. Mix well before use.

Prepare a master mix as described in the table below. This reaction can be scaled according to the quantity of reactions required.

Components	Volume
5X SwiftScript Reaction Buffer	4 µL
20x SwiftScript Enzyme Mix	1 µL
RNA Template*	x µL
Just Water (Molecular grade water)	make up to 20 µL

\*The amount of RNA required for detection depends on the abundance of the transcript of interest. In general 1 ng to 1 µg total RNA or 0.1-100 ng mRNA are recommended.

Inclusion of positive and negative (no reverse transcriptase) controls are recommended.

#### Product Handling

##### Storage

To ensure the quality of the product until the expiry date keep at the recommended storage temperature and limit exposure to light.

##### Contamination Control

To prevent erroneous results ensure work environment is free of contamination by cleaning your workstation and equipment with a DNA decontaminant daily, wear gloves, use

Mix gently and centrifuge to remove bubbles as necessary.

### Thermocycling

Transfer reactions to a thermal cycler and program with the recommended conditions in the table below.

Cycles	Temperature	Time
1	25°C	10 min
1	50°C	10 min
1	85°C	5 min

Refer to instrument manufacturer's guidelines where appropriate.

Store cDNA at -20°C or on ice for immediate use.

For research use only.

Simple | Effective | Efficient