

invitrogen



# cDNA synthesis made for momentum

## SuperScript IV Reverse Transcriptases

With over 50,000 citations, reviews, and publications, Invitrogen™ SuperScript™ Reverse Transcriptases (RTs) are the most trusted and widely used first-strand cDNA synthesis products. Invitrogen™ SuperScript™ IV Reverse Transcriptase is the latest SuperScript enzyme, engineered to deliver superior performance even with challenging RNA samples.

**ThermoFisher**  
SCIENTIFIC

# Which SuperScript IV format is right for you?

## SuperScript IV Reverse Transcriptase

### Do you want the ability to optimize reaction components and conditions?

SuperScript IV RT is a proprietary MMLV mutant with superior robustness and reliability in RT reactions. This stand-alone enzyme is significantly improved over the Invitrogen™ SuperScript™ III formulation in inhibitor resistance, processivity, and reaction speed while retaining all the benefits, including thermostability, highly efficient full-length cDNA synthesis, and reduced RNase activity.



### Ordering information

Product	Format	Cat. No.
SuperScript IV Reverse Transcriptase	Stand-alone enzyme	18090050

## SuperScript IV First-Strand Synthesis System

### Are you looking for a complete kit with all cDNA synthesis reaction components?

The Invitrogen™ SuperScript™ IV First-Strand Synthesis System for RT-PCR is optimized for synthesis of first-strand cDNA from purified poly(A)+ or total RNA. The SuperScript IV First-Strand Synthesis System contains all components needed for RT reactions, plus an additional control gene and primers, and provides the flexibility to customize the RT setup to fit the needs of your application. The SuperScript IV synthesis system is the top choice for performance and flexibility for RT-PCR applications.



### Ordering information

Product	Format	Cat. No.
SuperScript IV First-Strand Synthesis System	cDNA synthesis kit	18091050

## SuperScript IV VILO Master Mix

### Are you looking for the most convenience and fewest pipetting steps for two-step RT-qPCR applications?

Invitrogen™ SuperScript™ IV VILO™ Master Mix is a first-strand cDNA synthesis reaction mix for two-step RT-qPCR. The master mix format elevates the trusted VILO technology (variable input, linear output) to the next level by combining further optimized buffer conditions with highly processive and thermostable SuperScript IV RT. The master mix offers exceptional performance features while maintaining superior linearity across the broadest range of input RNA.



### Ordering information

Product	Format	Cat. No.
SuperScript IV VILO Master Mix	Master mix for two-step RT-qPCR	11766050

## SuperScript IV One-Step RT-PCR System

### Are you looking for the most convenience and fewest pipetting steps for RT-PCR applications?

The Invitrogen™ SuperScript™ IV One-Step RT-PCR System combines high-processivity SuperScript IV RT and high-fidelity Invitrogen™ Platinum™ SuperFi™ DNA Polymerase to provide superior one-step RT-PCR performance.



#### Ordering information

Product	Format	Cat. No.
SuperScript IV One-Step RT-PCR System	One-step RT-PCR system	12595025

## SuperScript IV CellsDirect cDNA Synthesis Kit

### Do you want to go directly from cell lysate to cDNA synthesis without having to isolate RNA?

The Invitrogen™ SuperScript™ IV CellsDirect™ cDNA Synthesis Kit is an easy-to-use solution designed to synthesize first-strand cDNA directly from mammalian cell lysate without first isolating the RNA. With lysis and reverse transcription performed in the same tube, the resulting first-strand cDNA is ready to use in many downstream applications such as PCR, qPCR, and cloning.



#### Ordering information

Product	Format	Cat. No.
SuperScript IV CellsDirect cDNA Synthesis Kit	Direct cDNA synthesis	11750150

“We had the challenge to perform RT-qPCR experiments on precision-cut lung slices, which contained a low amount of RNA and residual inhibitors. The SuperScript IV VILO Master Mix was key to obtaining robust data.”

Marie Schnoebelen  
Actelion Pharmaceuticals Ltd., Switzerland



## Support resources

- New to reverse transcription? Access our RT education center at [thermofisher.com/rteducation](http://thermofisher.com/rteducation)
- View how-to and educational videos by visiting [videos.thermofisher.com](http://videos.thermofisher.com)
- Explore quick 5-step workflow tutorials designed to help save you time at [thermofisher.com/keepseeking](http://thermofisher.com/keepseeking)



## Why should you choose SuperScript IV Reverse Transcriptases?

SuperScript IV Reverse Transcriptase (RT) features:



Short, 10 min cDNA synthesis protocol



Higher cDNA yields than with other RT enzymes



High thermostability and processivity for superior cDNA synthesis performance



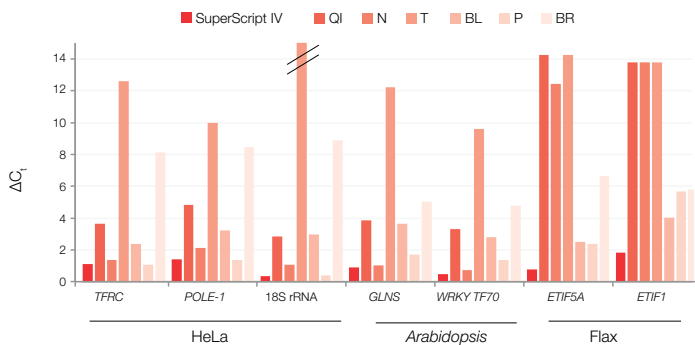
Great results, even with RNA samples of suboptimal purity

### Superior efficiency, short reaction time

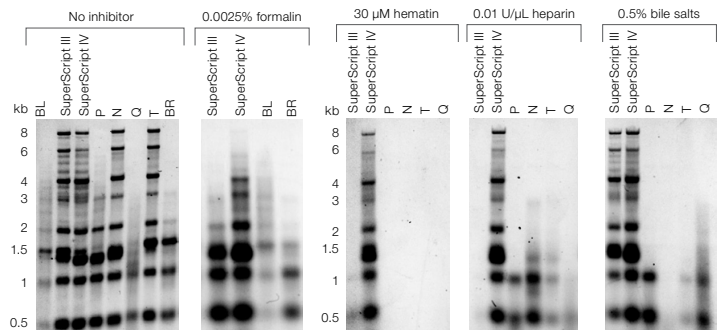
SuperScript IV RT delivers a high cDNA yield, even with challenging RNA samples, with the shortest (10 min) cDNA synthesis protocol.

### High inhibitor tolerance

SuperScript IV RT tolerates common RT inhibitors such as copurified compounds from biological samples, or reagents used for RNA preservation or purification.



**Figure 1. High efficiency with degraded RNA.** RT-qPCR of degraded RNA (RNA integrity number (RIN) 1–3) from human cells and plant tissues with different RTs and Applied Biosystems™ TaqMan® Assays. Delta  $C_t$  values ( $\Delta C_t = C_t - C_{t \text{ SuperScript IV}}$ ) show that SuperScript IV RT, with its standard 10 min protocol, delivered higher cDNA yields and lower  $C_t$  values than the recommended protocols for SuperScript III reagent and other suppliers' RTs.



**Figure 2. Tolerance to inhibitors.** This data shows first-strand cDNA synthesis of an RNA ladder in the presence of reaction inhibitors. cDNA fragments were resolved by alkaline gel electrophoresis. All RTs except for SuperScript IV RT were severely affected with trace amounts of inhibitors.

Find out more at [thermofisher.com/superscript](https://thermofisher.com/superscript)