Get on board with first-class cDNA synthesis results

With over 50,000 citations, reviews, and publications, Invitrogen™ SuperScript™ reverse transcriptases 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.
SuperScript IV Reverse Transcriptase

The best super yet

SuperScript IV Reverse Transcriptase (RT) was engineered to provide higher performance than other RT enzymes, including Invitrogen™ SuperScript™ II and SuperScript™ III RTs, with both routine and difficult RNA samples.

Features

• 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

• Short, 10 min cDNA synthesis protocol

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.

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Learn more at thermofisher.com/ssiv
SuperScript IV VILO Master Mix

For superior RT-qPCR results

Invitrogen™ SuperScript™ IV VILO™ Master Mix is a first-strand cDNA synthesis reaction mix for two-step RT-qPCR. The master mix provides SuperScript IV RT in a unique buffer composition for exceptional performance, while maintaining superior linearity across the broadest range of input RNA.

Features
- Improved RT-qPCR data reproducibility due to single-tube master mix format
- Integrated, easy, and RNA-friendly genomic DNA (gDNA) removal
- Higher cDNA yields and lower C_t values than with other reagents, in a 10 min reaction
- Superior results even with degraded or inhibitor-containing RNA samples

C_t values lower by 2 cycles
SuperScript IV VILO Master Mix delivers on average 4 times more cDNA, and C_t values that are 2 cycles lower than with other cDNA synthesis reagents.

Unmatched linearity
A proprietary helper protein in the master mix improves the interaction between the SuperScript IV RT and RNA for superior sensitivity and extended linearity across the broadest range of RNA input.

Figure 3. Highest efficiency across a broad range of targets. RT-qPCR with different cDNA synthesis reagents and TaqMan Assays. Delta C_t values (\(\Delta C_t = C_t - C_t^{\text{SuperScript IV VILO}}\)) show that SuperScript IV VILO Master Mix delivered the highest cDNA yields, and C_t values that were 2 cycles lower, on average, than with the other reagents tested.

Figure 4. Linearity across 10 orders of magnitude RNA input. RT-qPCR targeting human 18S rRNA using SuperScript IV VILO Master Mix and TaqMan Assay with 1 fg–1 µg HeLa total RNA input. E = 94.2%, R^2 = 0.999.

Easy gDNA elimination for high RT-qPCR data accuracy
- All RNA purification methods, including protocols with on-column DNase digestion, fail to remove gDNA completely. Amplification of contaminating gDNA can cause shifts in C_t values, especially when detecting poorly expressing genes. After traditional gDNA decontamination with DNase I, the enzyme needs to be inactivated or removed before cDNA synthesis using processes that can damage RNA.
- SuperScript IV VILO Master Mix, with double-stranded DNA–specific Invitrogen™ ezDNase™ Enzyme, allows fast and easy gDNA elimination (2 min at 37°C). Thermolabile ezDNase Enzyme is inactivated at the standard temperature (50°C) for SuperScript IV RT cDNA synthesis. This eliminates the need for a separate inactivation step and enables the highest-accuracy RT-qPCR results.

Learn more at thermofisher.com/4vilo
Streamline your workflow with SuperScript IV RT and SuperScript IV VILO Master Mix

Due to the high processivity of SuperScript IV RT and fast gDNA-removal protocol with ezDNase Enzyme, cDNA synthesis workflows with SuperScript IV RT and SuperScript IV VILO Master Mix are significantly easier and shorter than with traditional systems.

SuperScript IV RT and SuperScript IV VILO Master Mix cDNA synthesis workflow with ezDNase Enzyme

Traditional cDNA synthesis workflow with DNase I

“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

“We tested SuperScript IV RT with degraded mouse pancreas RNA sample. It was more efficient than enzymes from other suppliers.”

Rieko Ohki, PhD
National Cancer Center Research Institute, Japan

Ordering information

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<tr>
<th>Product</th>
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