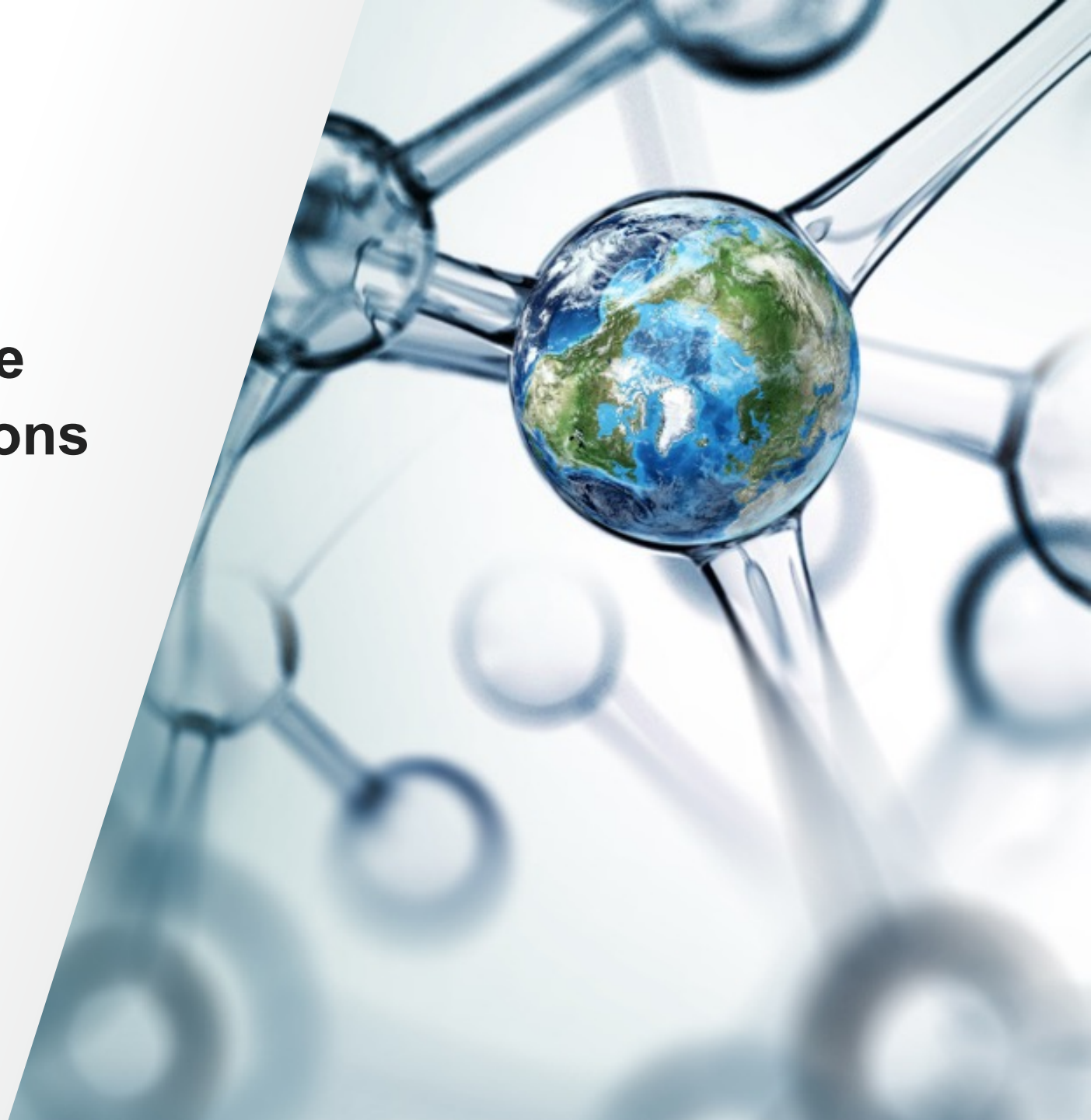
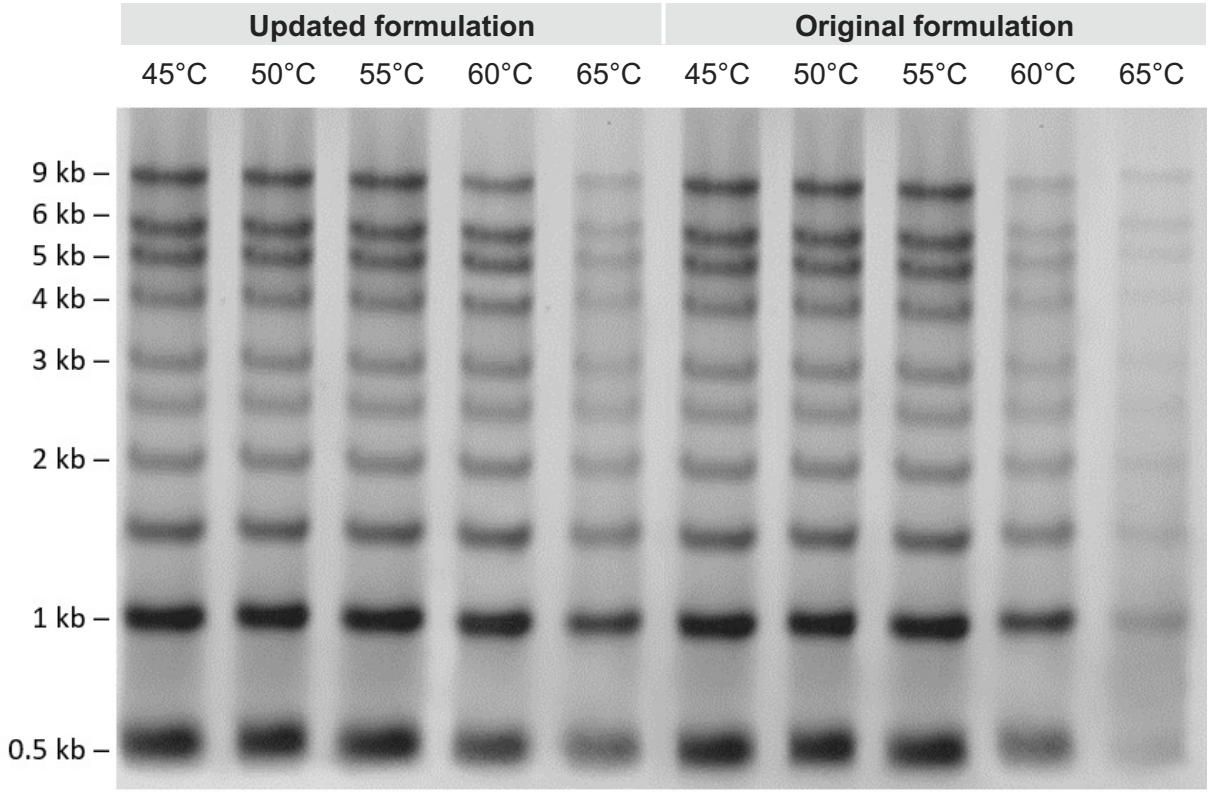
Performance comparison of the updated and original formulations of SuperScript IV Reverse Transcriptase reagents



The world leader in serving science

First-strand cDNA synthesis using SuperScript IV Reverse Transcriptase



Ability to synthesize cDNAs of different lengths at a range of temperatures.

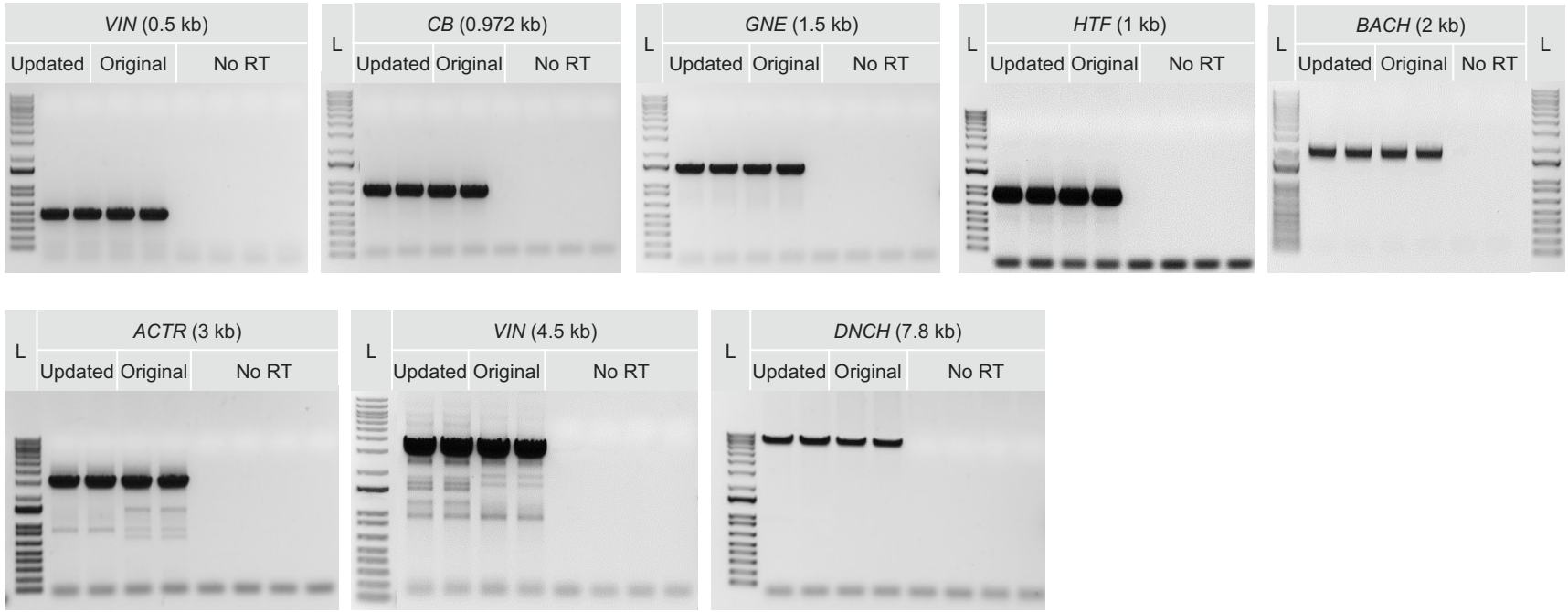
cDNA was synthesized using 1 µg/µL of Invitrogen™ RNA Millennium™ marker at different temperatures using both the Updated and original formulations of Invitrogen™ SuperScript™ IV Reverse Transcriptase. Reaction products were resolved on alkaline agarose gels.

Original formulation—
SuperScript IV Reverse Transcriptase formulated with Triton™ X-100 detergent

Updated formulation—
SuperScript IV Reverse Transcriptase reformulated with an alternative detergent

There is no difference in efficiency between the updated and original formulations of SuperScript IV Reverse Transcriptase.

Expression analysis with targets of different lengths from human RNA, using SuperScript IV Reverse Transcriptase



Original formulation—
SuperScript IV Reverse Transcriptase formulated with Triton X-100 detergent

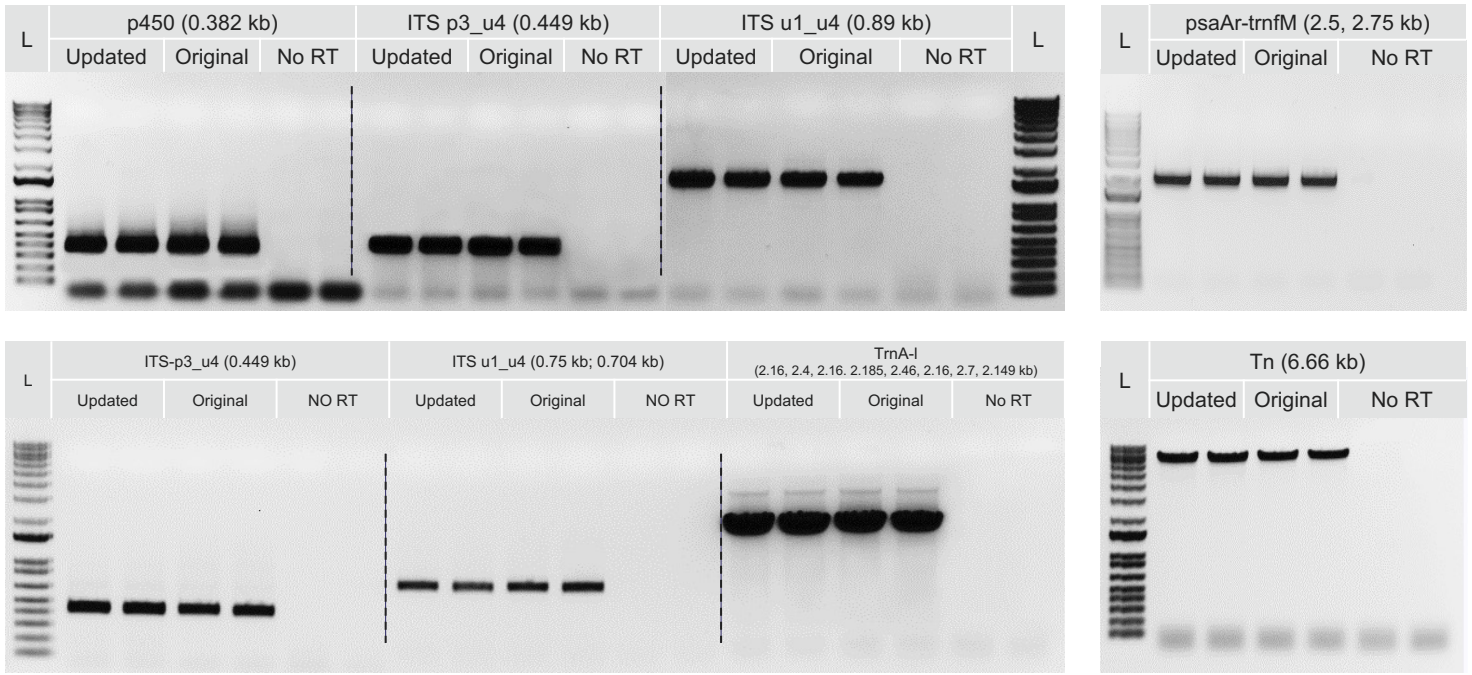
Updated formulation—
SuperScript IV Reverse Transcriptase reformulated with an alternative detergent

Versatility of SuperScript IV Reverse Transcriptase across a broad range of target lengths.

cDNA was synthesized from targets ranging from 0.5 to 9.4 kb, using 100 ng of human total RNA and the updated and original formulations of SuperScript IV Reverse Transcriptase. Synthesized cDNA was PCR-amplified with Invitrogen™ Platinum™ SuperFi™ II PCR Master Mix.

There is no difference in amplification across a broad range of targets of human RNA, between the updated and original formulations of SuperScript IV Reverse Transcriptase.

Expression analysis with targets of different lengths from plant RNA, using SuperScript IV Reverse Transcriptase



Original formulation—
SuperScript IV Reverse Transcriptase formulated with Triton X-100 detergent

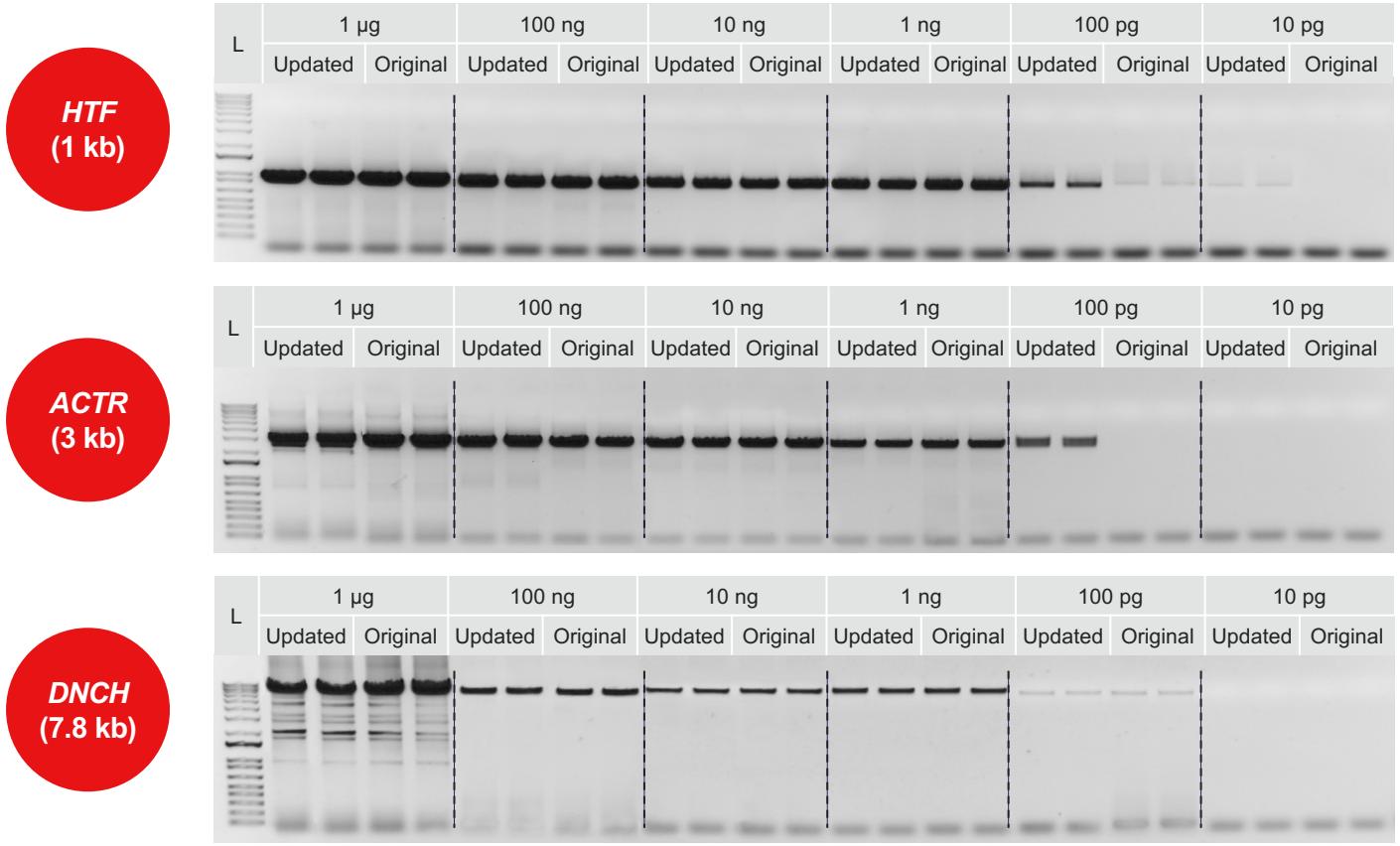
Updated formulation—
SuperScript IV Reverse Transcriptase reformulated with an alternative detergent

Versatility of SuperScript IV Reverse Transcriptase across a broad range of target lengths.

cDNA was synthesized from targets ranging from 0.382 to 6.6 kb, using 100 ng of plant RNA (**A**, wheat; **B**, tobacco) and updated and original formulations of SuperScript IV Reverse Transcriptase. Synthesized cDNA was PCR-amplified with Platinum SuperFi II PCR Master Mix.

There is no difference in amplification across a broad range of targets of plant RNA between the updated and original formulations of SuperScript IV Reverse Transcriptase.

Detection sensitivity of SuperScript IV Reverse Transcriptase with human RNA



Original formulation—
SuperScript IV Reverse Transcriptase formulated with Triton X-100 detergent

Updated formulation—
SuperScript IV Reverse Transcriptase reformulated with an alternative detergent

Detection sensitivity with different amounts of input human RNA.

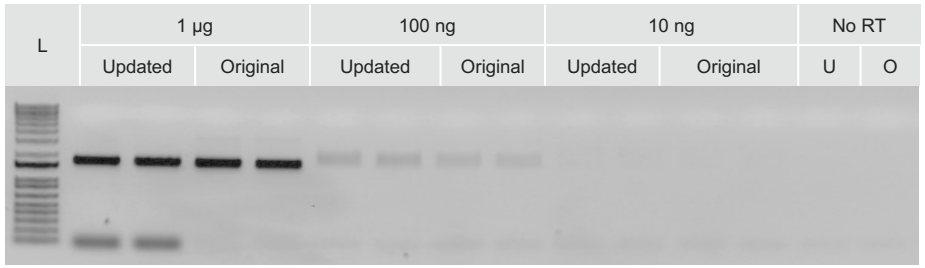
cDNA was synthesized from various targets (1 kb, 3 kb, 7.8 kb) with inputs of 10 pg to 1 µg of Invitrogen™ HeLa-S3 Total RNA, using the updated and original formulations of SuperScript IV Reverse Transcriptase. Synthesized cDNA was PCR-amplified with Platinum SuperFi II PCR Master Mix.

The updated formulation of SuperScript IV Reverse Transcriptase retains detection sensitivity equivalent to that of the original formulation of SuperScript IV Reverse Transcriptase.

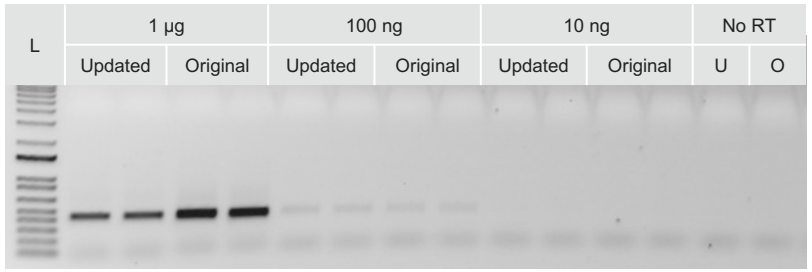
SuperScript IV Reverse Transcriptase sensitivity testing with plant RNA

A

SSII-7D (1.65 kb)

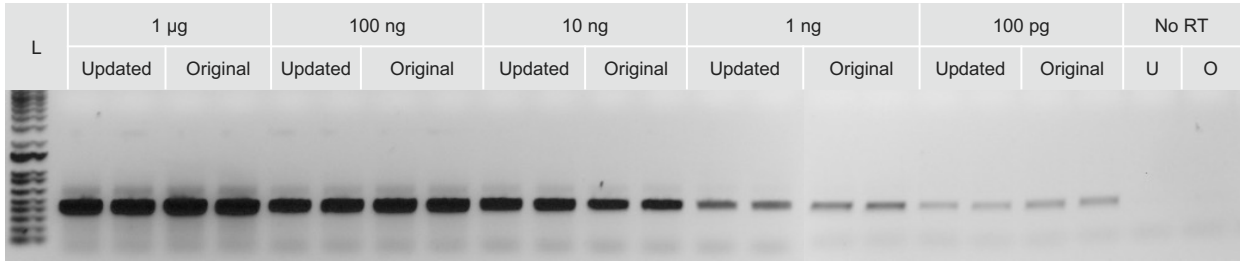


p450 (0.382 kb)

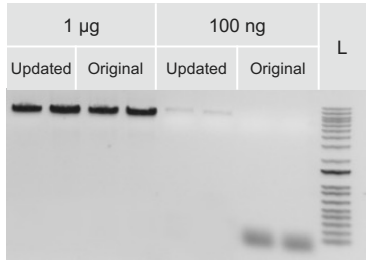


B

ITS-p3_u4 (0.449 kb)



Tn (6.66 kb)



Original formulation (O)— SuperScript IV Reverse Transcriptase formulated with Triton X-100 detergent

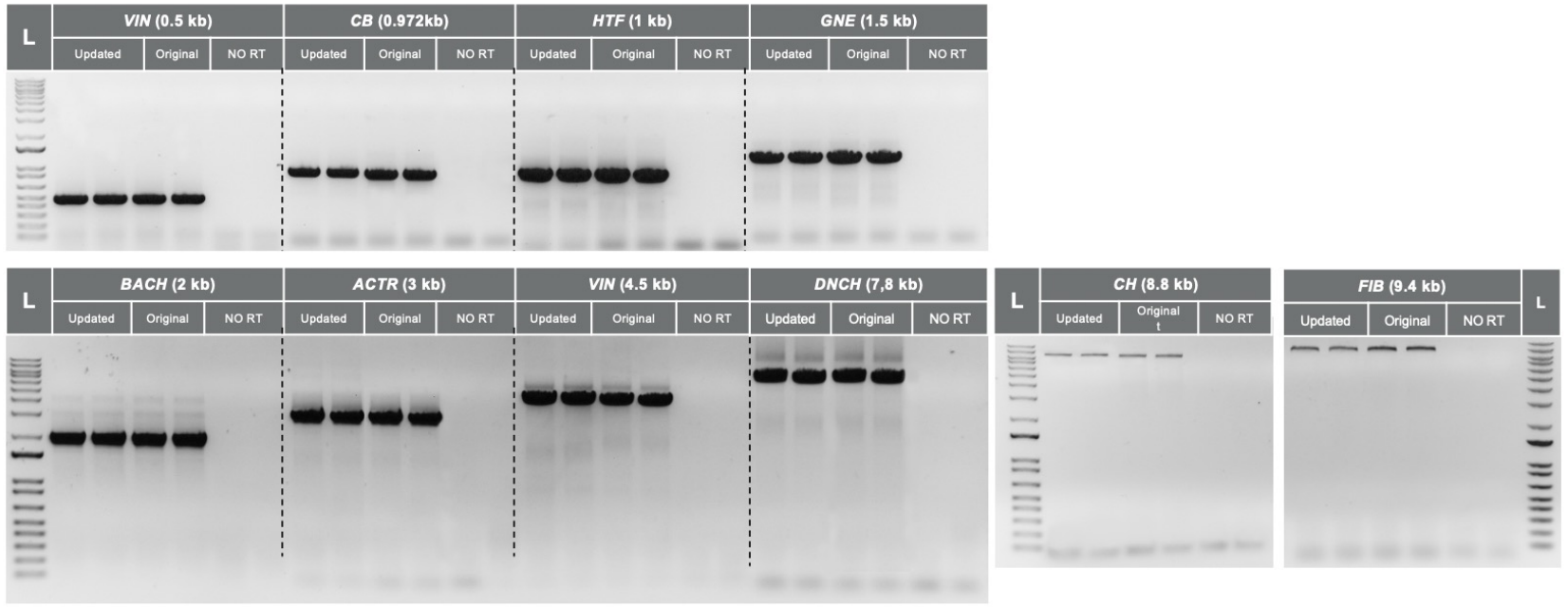
Updated formulation (U)— SuperScript IV Reverse Transcriptase reformulated with an alternative detergent

Detection sensitivity with different amounts of input plant RNA.

cDNA was synthesized from various targets (0.382–6.66 kb) with inputs of 10 pg to 1 µg of total plant RNA (**A**, wheat; **B**, tobacco), using the updated and original formulations of SuperScript IV Reverse Transcriptase. Synthesized cDNA was PCR-amplified with Platinum SuperFi II PCR Master Mix.

The updated formulation of SuperScript IV Reverse Transcriptase retains detection sensitivity equivalent to that of the original formulation of SuperScript IV Reverse Transcriptase.

Expression analysis with targets of different lengths, using SuperScript IV One-Step RT-PCR System



Original formulation—
SuperScript IV One-Step RT-PCR System formulated with Triton X-100 detergent

Updated formulation—
SuperScript IV One-Step RT-PCR System reformulated with an alternative detergent

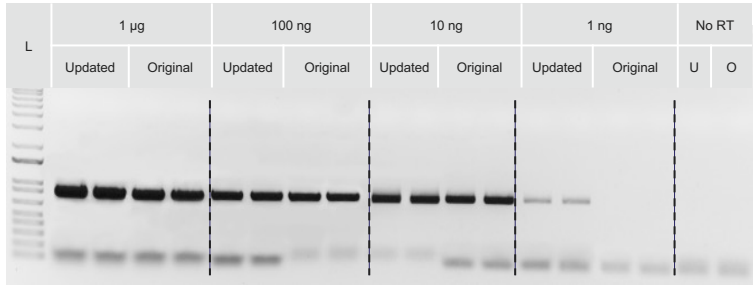
Versatility of the SuperScript IV One-Step RT-PCR System across a broad range of target lengths.

cDNA was synthesized from targets ranging from 0.5 to 9.4 kb, using 100 ng of human total RNA and the updated and original formulations of the SuperScript IV One-Step RT-PCR System.

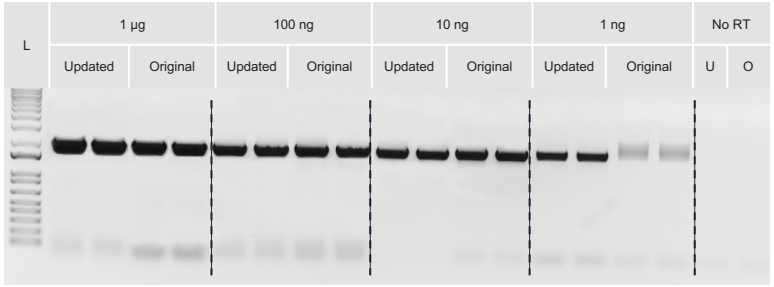
There is no difference in amplification across a broad range of targets between the updated and original formulations of the SuperScript IV One-Step RT-PCR System.

SuperScript IV One-Step RT-PCR System sensitivity testing with human RNA

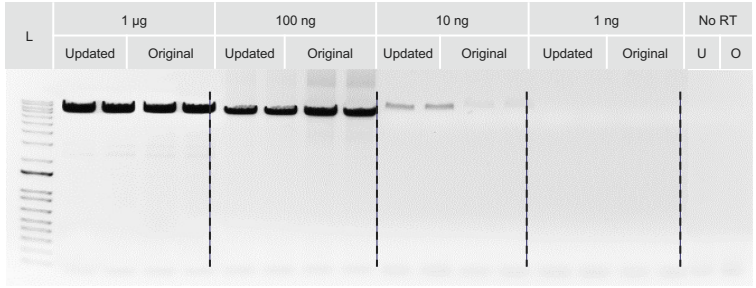
CB (0.972 kb)



BACH (2 kb)



DNCH (7.8 kb)



Original formulation (O)—
SuperScript IV One-Step RT-PCR System formulated with Triton X-100 detergent

Updated formulation (U)—
SuperScript IV One-Step RT-PCR System reformulated with an alternative detergent

Detection sensitivity with different amounts of input human RNA.

cDNA was synthesized from 1 ng to 1 µg of HeLa-S3 total RNA input with various targets (0.972 kb, 2 kb, 7.8 kb) using the updated and original formulation of SuperScript IV RT One-Step RT-PCR system.

The updated formulation of SuperScript IV One-Step RT-PCR System retains detection sensitivity equivalent to that of the original formulation of the SuperScript IV One-Step RT-PCR System.

Thank you