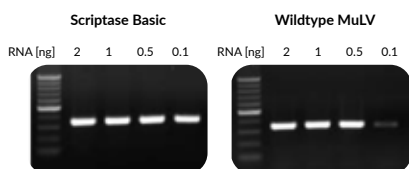


FastGene® Scriptase Basic

Perfect Enzymes for Reverse Transcription



- ✓ Reverse transcriptase for the quantification of gene expression
- ✓ RNase inhibitor included
- ✓ For high DNA concentrations
- ✓ Enzyme only or cDNA Synthesis Kit



The FastGene® Scriptase Basic shows higher sensitivity when compared to wildtype MuLV. The Scriptase Basic is able to produce a template from RNA concentrations as low as 0.1 ng.

Ordering information

Cat. No.	Product	Content
LS52	FastGene® Scriptase Basic (20,000 units at 200 U/μl) (Includes: enzyme, buffer, dNTPs and sterile water)	100 rxn
LS62	FastGene® Scriptase Basic cDNA Synthesis Kit (Kit includes: enzyme, buffer, dNTPs, sterile water, RNase inhibitor, oligo dTs and random hexamers)	100 rxn

Enzyme only or cDNA Synthesis Kit

The FastGene® Scriptase Basic is available in two forms: Enzyme only contains the enzyme, buffer and dNTPs. The cDNA Synthesis Kit, additionally comes with Oligo dTs, random hexamers and RNase inhibitor.

Designed for endpoint RT-PCR

The FastGene® Scriptase Basic was designed for large RNA quantities, typically used in an endpoint RT-PCR. Nonetheless, it is also able to process lower RNA concentrations.

Optimized for better performance

The FastGene® Scriptase Basic is an enhanced version of the Murine Leukemia Virus (MuLV) reverse transcriptase. Like the wildtype, it has the ability to synthesize a cDNA strand, with a reduced RNase H activity and processivity. The robustness of the enzyme was greatly increased. It is perfectly suited for large RNA quantities and easy templates.

No inhibition - Even at large RNA concentration

The special buffer formulation permits a high RNA concentration. Other reverse transcriptases are not able to process such large quantities.

FastGene® Scriptase II

Perfect Enzymes for Reverse Transcription



- ✓ Reverse transcriptase for the quantification of gene expression
- ✓ Very low RNase H activity
- ✓ High yield of full-length cDNA
- ✓ Synthesis of cDNA from very low amounts of RNA

Everything you need for your reverse transcription

The FastGene® Scriptase II cDNA Synthesis Kit includes all necessary components to perform a reverse transcription. The kit contains the Scriptase II enzyme, buffer, DTT, dNTPs, RNase inhibitor, random hexamer and oligo dTs.

The Scriptase II is also available in two 5x ready-to-use mixes!

Have a look on the next page!

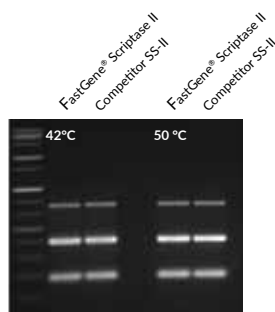
Ordering information

Cat. No.	Product	Content
LS53	FastGene® Scriptase II (20,000 units at 200 U/μl) (Includes: enzyme, buffer, DTT, dNTPs and sterile water)	100 rxn
LS63	FastGene® Scriptase II cDNA Synthesis Kit (Kit includes: enzyme, buffer, DTT, dNTPs, sterile water, RNase inhibitor, oligo dTs and random hexamers)	100 rxn

Engineered enzyme for better performance

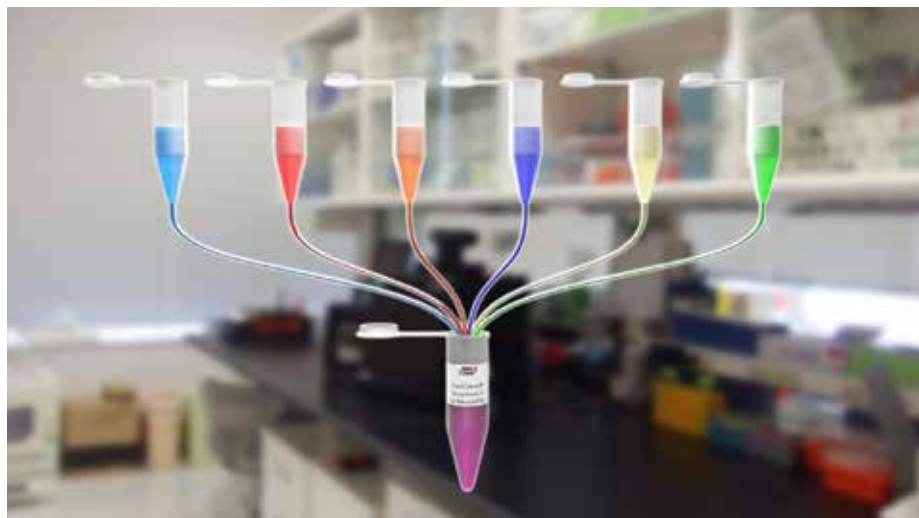
The reverse transcriptase Scriptase II from FastGene® allows the synthesis of cDNA from very low RNA quantities. The FastGene® Scriptase II contains mutations within the RNase H domain of the MuLV's reverse transcriptase. By reducing the degradation of the RNA during the first-strand synthesis, a higher yield of full-length cDNA is obtained.

The FastGene® Scriptase II delivers superior cDNA templates for downstream applications, e.g. qPCR and NGS. The resulting full length cDNA gives a complete picture of the gene and is able to show modifications, e.g. splicing variants.



Comparison of multiplex PCR using cDNA produced by Competitor SS-II enzyme and FastGene® Scriptase II at 42°C and 50°C.

FastGene® Scriptase II ReadyMix



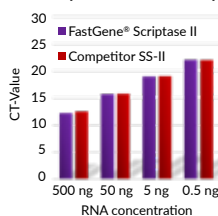
Reverse transcription: Ready-to-use

The FastGene® Scriptase II cDNA Synthesis 5x ReadyMix is ready-to-use with all necessary ingredients in just one vial. Just add the Scriptase II ReadyMix to your template and start the reaction.

Mixes with or without oligo dTs

The FastGene® Scriptase II ReadyMix is available in two variants. LS64 contains random hexamers and is suitable for prokaryotic systems. The LS65 mix additionally contains oligo dT primers that are able to bind to poly(A) tails of mRNA. This makes the mix perfectly suitable for eukaryotic systems.

Comparison - GAPDH - qPCR



Comparison of qPCR results using primers for GAPDH produced by using different RNA starting concentration by FastGene® Scriptase II and competitor SS-II enzyme at 42°C.

Customer Testimonial

"I especially like that the Scriptase II leads to stable results. As a result of performing RT-PCR using tumor derived RNA, we were able to detect the expression of genes, where the amplification was unstable with other RT reagents. The amplification of full-length cDNA has also been confirmed. I would love to also try the 5x ReadyMix."



Haruko Hayasaka

Department of Bioscience and Biotechnology,
Kinki University, Osaka, Japan



Ordering information

Cat. No.	Product	Content
LS64	FastGene® Scriptase II cDNA Synthesis 5x ReadyMix (Mix contains: enzyme, buffer, dNTPs, RNase inhibitor, random hexamers and helper protein)	100 rxn
LS65	FastGene® Scriptase II cDNA Synthesis 5x ReadyMix OdT (Mix contains: enzyme, buffer, dNTPs, RNase inhibitor, random hexamers, helper protein and oligo dTs)	100 rxn



Technical Note

2017 <01>

Technical Data

Very fast reverse transcription reactions

Purpose

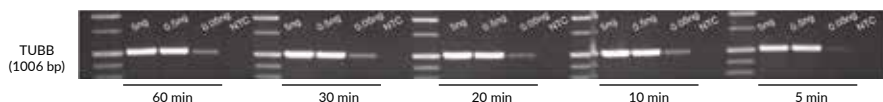
FastGene® Scriptase II is an engineered reverse transcriptase, able to deliver highest quality cDNA from a small amount of RNA. Optimization of enzymatic design has led to one of the most reactive RT-enzymes. This technical note shows the investigation of the minimum time possible of a reverse transcription. We were able to shorten time to 5 minutes with different concentrations of RNA. The resulting cDNA was used in endpoint PCR as well as in qPCR experiments.

Method

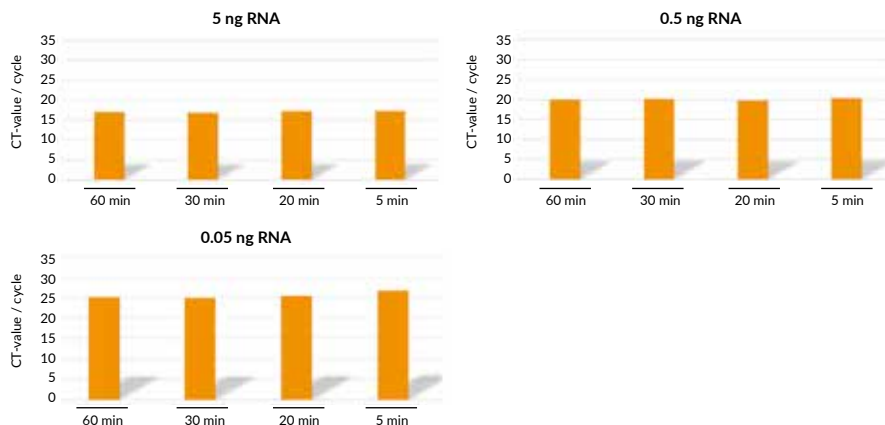
- FastGene® Scriptase II cDNA Synthesis Kit (LS63)
- RNA: Universal Human Reference RNA (Agilent Technologies) Input RNA amount: 5 ng, 0.5 ng, 0.05 ng
- Primer:
 - TUBB (1006 bp): Endpoint PCR
 - GAPDH (138 bp): qPCR

Result

1 Endpoint PCR



2 Quantitative PCR



Conclusion

FastGene® Scriptase II was able to produce cDNA in 5 minutes.

Result 1: For large PCR products, the band of 0.05 ng RNA after 5 min was slightly weaker. Hence, for products of 1000 bp a 10 min RT step is recommended for low RNA amounts.

Result 2: No difference in CT-value exceeding ± 1 cycle was detected.

FastGene® Scriptase II can therefore be recommended for short-term reverse transcription reactions.