

TeloPrime Full-Length cDNA Amplification Kit

- full-length cDNA synthesis
- exceptional cap-specificity
- for generation of sequencing libraries, probes, RACE, and cloning

Introduction

The TeloPrime Full-Length cDNA Amplification Kit is an all-in-one protocol for generating full-length cDNA from down to 1 ng of total RNA. Based on Lexogen's unique Cap-Dependent Linker Ligation (CDLL) and long Reverse Transcription (long RT) technology, it is highly selective for full-length RNA molecules that are both capped and polyadenylated. TeloPrime amplified cDNA provides a very faithful representation of the mRNA transcriptome, empowering multiple downstream applications such as Next Generation Sequencing, cloning, or RACE. It enables the detection and correct quantification of splice variants and their true transcription start- and end-sites, in both short and long mRNA molecules.

Workflow

Firstly, full-length cDNA synthesis is initiated by oligodT primed long RT. This helps to preserve the complete RNA sequence information in the cDNA before a cap selection is carried out. In addition a more stable RNA : cDNA hybrid is created that is maintained throughout post RT purification. This double stranded (ds) hybrid is also important for the specificity of the subsequent CDLL reaction. There a ds adapter with a 5' C overhang allows for an atypical base-pairing with the inverted G of the cap structure. By using a ds-specific ligase, the ligation will only take place if the cap is present and if the RT has really reached the 5' end of the mRNA. No ligation will take place if no cap is present e.g., in degraded RNA (low RIN) or if the RT has terminated prematurely because of secondary structures. Therefore the ligation of the 5' linker tag to the 3' end of the cDNA takes place in a highly cap-dependent manner. In the subsequent second strand synthesis and purification steps all remaining background is eliminated and only 5' tagged full-length cDNA is converted into full-length ds cDNA, which is then globally amplified in a PCR reaction using 5' and 3' tag specific PCR primers to provide enough material for various downstream applications.

Ordering Information

Catalog Numbers:

013.04 (TeloPrime Full-Length cDNA Amplification Kit, 4 preps)

013.08 (TeloPrime Full-Length cDNA Amplification Kit, 8 preps)

013.24 (TeloPrime Full-Length cDNA Amplification Kit, 24 preps)

018.30 (TeloPrime PCR Add-on Kit, 30 rxn)

Find more about TeloPrime at www.lexogen.com.
Contact us at info@lexogen.com or +43 1 345 1212-41.

For in depth gene-specific analysis, Lexogen offers also a TeloPrime PCR Add-on Kit with additional 30 PCR reactions (Cat.No. 018.30) that can be adapted with gene-specific primers.

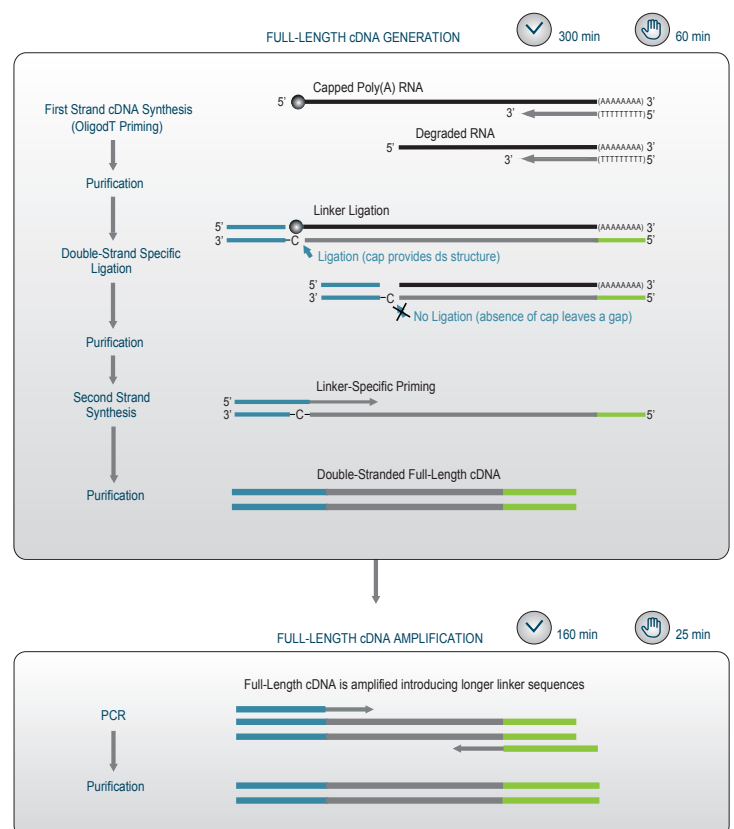


Figure. Schematic overview of the TeloPrime Full-Length cDNA Amplification workflow.