

NEBNext ARTIC Products for SARS-CoV-2 Sequencing

NEW

NEBNext ARTIC SARS-CoV-2 FS Library Prep Kit (Illumina)
 #E7658S 96 reactions 408 €
 #E7658L 24 reactions ... 1,632 €

NEW

NEBNext ARTIC SARS-CoV-2 Library Prep Kit (Illumina)
 #E7650S 96 reactions 384 €
 #E7650L 24 reactions ... 1,536 €

NEW

NEBNext ARTIC SARS-CoV-2 Companion Kit (Oxford Nanopore Technologies)
 #E7660S 96 reactions 192 €
 #E7660L 24 reactions 768 €

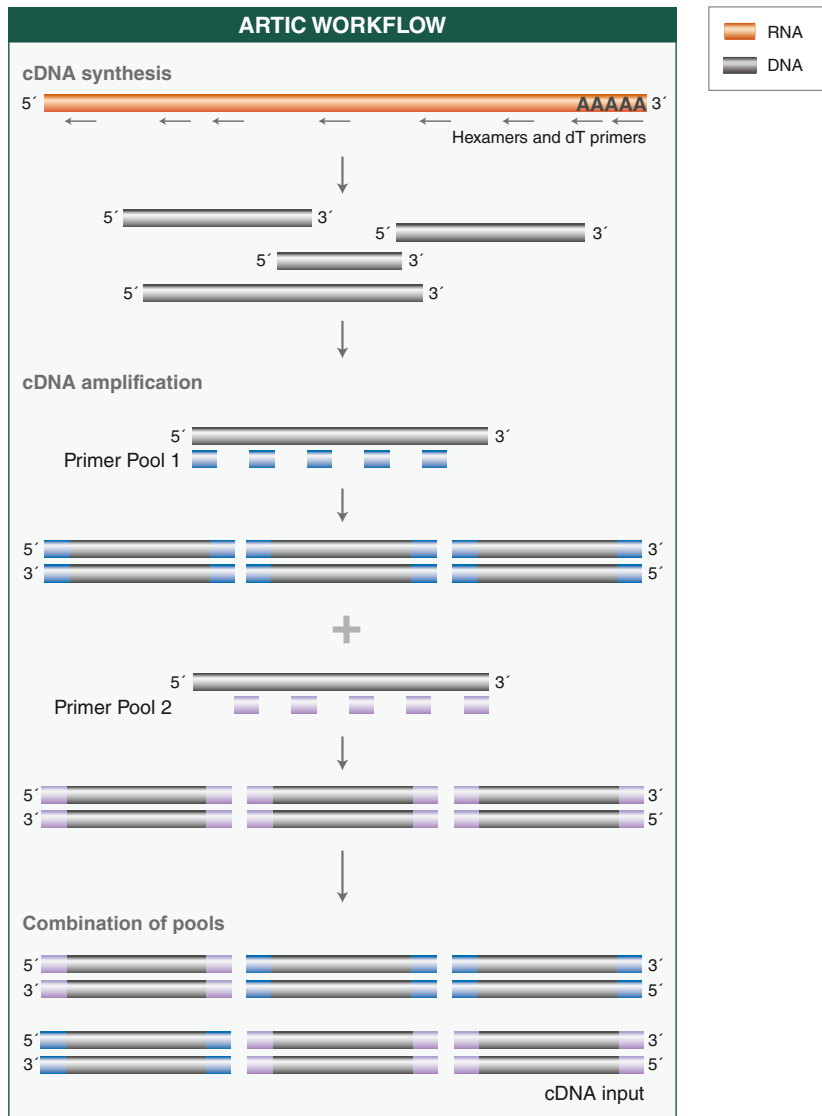
- Streamlined, high-efficiency protocol
- Ample amplicon yields from a wide range of viral genome inputs
- Improved SARS-CoV-2 genome coverage depth with a more balanced primer pool
- Available for Illumina and Oxford Nanopore Technologies sequencing platforms
- No requirement for amplicon normalization prior to Illumina library preparation

The NEBNext ARTIC kits were developed in response to the critical need for reliable and accurate methods for sequencing viral pathogens, specifically SARS-CoV-2. These kits, for long and short read sequencing, were based on the original work of the ARTIC Network (1). The ARTIC SARS-CoV-2 sequencing workflow is a multiplexed amplicon-based whole-viral-genome sequencing approach.

NEBNext ARTIC Companion kits include primers and reagents for RT-PCR from SARS-CoV-2 gRNA and downstream library preparation for Illumina and Oxford Nanopore Technologies sequencing.

The optimized primers and reagents for RT-PCR deliver uniform, ample amplicon yields from gRNA across a wide copy number range, and library prep and sequencing can be performed downstream of a single RT-PCR procedure.

For Illumina applications, a novel DNA polymerase formulation for the enrichment of next-generation sequencing libraries eliminates the need to normalize amplicon concentrations prior to library preparation. Two library prep options are available: The NEBNext ARTIC SARS-CoV-2 FS Library Prep Kit (Illumina) incorporates enzymatic cDNA fragmentation, and generates libraries with inserts in the 150 bp range. The NEBNext ARTIC SARS-CoV-2 Library Prep Kit (Illumina) does not include DNA fragmentation and library inserts are in the 400 bp range.



NEBNext REAGENTS FOR NEXT GENERATION SEQUENCING

(1) Josh Quick 2020. nCoV-2019 sequencing protocol v2 (Gunlt). protocols.io <https://dx.doi.org/10.17504/protocols.io.bdp7i5rn>

Reagents for Oxford Nanopore Technologies® Sequencing

NEW

NEBNext Companion Module for Oxford Nanopore Technologies Ligation Sequencing
#E7180S 24 reactions 920 €

NEW

NEBNext ARTIC SARS-CoV-2 Companion Kit (Oxford Nanopore Technologies)
#E7660S 24 reactions 192 €
#E7660L 96 reactions 768 €

For adenylation of custom ssDNA adaptors, the 5' DNA Adenylation Kit is available (NEB #E2610).

Companion Products:

Monarch HMW DNA Extraction Kit for Cells & Blood

#T3050S 5 preps 69 €
#T3050L 50 preps 398 €

Monarch HMW DNA Extraction Kit for Tissue

#T3060S 5 preps 74 €
#T3060L 50 preps 448 €

Monarch Genomic DNA Purification Kit

#T3010S 50 preps 156 €
#T3010L 150 preps 402 €

- Component volumes tailored for use with many SQK-LSK109 and SQK-LSK110 workflows
- Simplified ordering and inventory management
- Compatible with all devices: MinION®, GridION®, PromethION™, Flongle®
- No unnecessary buffers or excess reagents

Many NEBNext and NEB products are recommended for use in multiple sample prep workflows for Oxford Nanopore Technologies sequencing, for a range of sample types and applications.

The NEBNext Companion Module for Oxford Nanopore Technologies Ligation Sequencing includes the NEBNext DNA repair, end repair and ligation reagents recommended in Oxford Nanopore Ligation library preparation. These are provided at volumes designed for use in several protocols alongside Oxford Nanopore Technologies SQK-LSK109 and SQK-LSK110.

The NEBNext Companion Module for Oxford Nanopore Technologies Ligation Sequencing Includes:

- NEBNext FFPE DNA Repair Mix (0.048 ml)
- NEBNext FFPE DNA Repair Buffer (0.084 ml)
- NEBNext Ultra II End Prep Enzyme Mix (0.072 ml)
- NEBNext Ultra II End Prep Reaction Buffer (0.084 ml)
- Quick T4 DNA Ligase (0.240 ml)

The NEBNext ARTIC SARS-CoV-2 Companion Kit (Oxford Nanopore Technologies) is designed for sequencing of SARS-CoV-2 using the ARTIC protocol and the Oxford Nanopore Technologies platform. Optimized primers and reagents for RT-PCR deliver uniform, ample amplicon yields from gRNA across a wide copy number range.

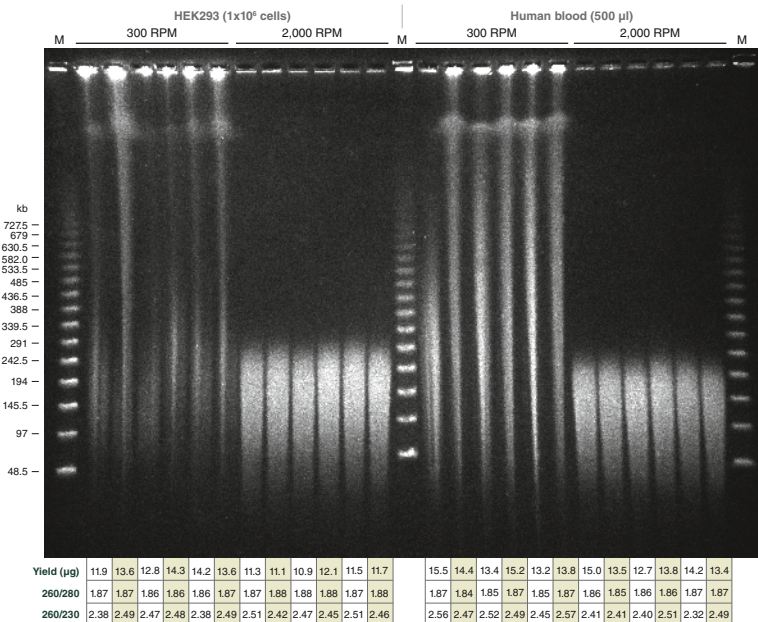
- Streamlined, high-efficiency protocol
- Ample amplicon yields from a wide range of viral genome inputs
- Improved SARS-CoV-2 genome coverage depth with a more balanced primer pool

Also Available:

Monarch DNA Extraction for Oxford Nanopore Sequencing

Long read sequencing technologies, including Oxford Nanopore sequencing, require high quality extracted DNA. For the longest reads, the Monarch® HMW DNA Extraction kits enable isolation of DNA in the Mb range. The HMW DNA Extraction Kit for Tissue (NEB #T3060) is effective with a variety of tissues, bacteria and other samples (yeast, insect, amphibian), and the HMW DNA Extraction Kit for Cells & Blood (NEB #T3050) isolates HMW DNA from cultured cells and whole blood. When reads < 80 kb are required, the Monarch Genomic DNA Purification Kit (NEB #T3010) produces genomic DNA with a typical peak size of > 50 kb.

For more information see page 136.



Use of varying agitation speeds during lysis produces tunable fragment length of extracted HMW genomic DNA from cells and blood.

DNA extracted with Monarch HMW DNA Extraction Kit for Cells & Blood. 1 x 10⁶ fresh HEK293 cells and 500 µl fresh human blood were used as inputs and for preps performed according to the kit instructions using the agitation speed indicated above the gel lanes. 500 ng of DNA from the replicates was resolved by PFGE (1% agarose gel, 6 V/cm, 13°C for 20 hours, switch times ramped from 0.5–94 seconds on a BioRad® CHEF-DR® III System). Yield and purity ratios of the individual preps are shown in the accompanying tables. Lambda PFG Ladder (NEB #N0341) was used as molecular weight standard.