MCLAB
Molecular Cloning Laboratories

NGS Products

- NGS Library Preparation Kits
- NGS Library Quantification Kit
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- NGS Enzymes & Amplification Technology
- NGS Miscellaneous

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NGS Library Preparation Kits

Topomize DNA Library Prep Kit

Description

MCLAB's Topomize DNA Library Prep Kit is an innovative, fast and high quality DNA library construction kit for next generation sequencing. Instead of using traditional ligase-based methods, our kit uses topoisomerase-based technology to attach adapters to fragmented DNA. The Topomize DNA Library Kit has unparalleled efficiency and yield, with no adapter dimers or chimeras. The kit is designed for 10ng to 1µg of sheared genomic DNA input and is compatible with Illumina® platforms. The streamlined workflow allows the DNA library to be ready in about 90 minutes.

Highlights

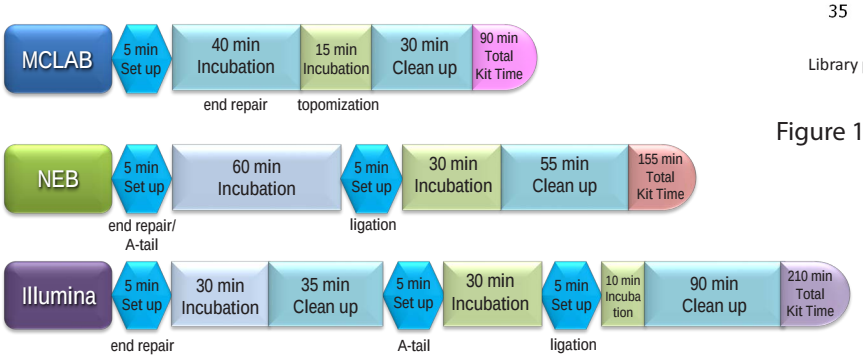
- **Streamlined workflow:** no A-tailing step
- **Unbeatable efficiency:** Topoisomerase based enzymology generates a higher adapter attachment rate with no bias
- **High quality:** no adapter dimers or other chimeras
- **Time saving:** get your library ready in about 90 minutes
- **Low input DNA:** as little as 10 ng of DNA input
- **All-in-One Kit:** includes all the reagents for sample prep and is compatible with Illumina® platforms

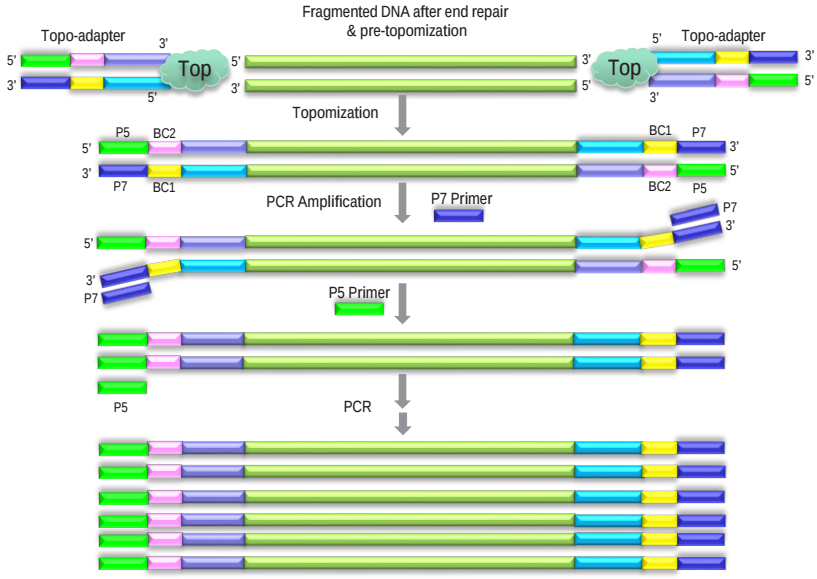
Product Information

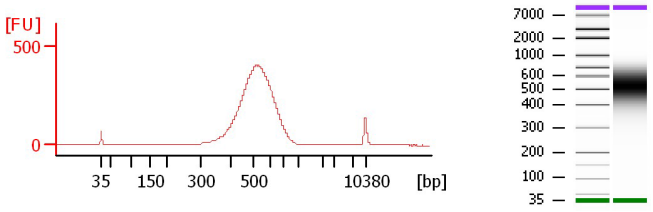
TOPO-100A	24 samples, 12 Indexes
TOPO-100B	24 samples, 12 Indexes

Workflow Time Comparison

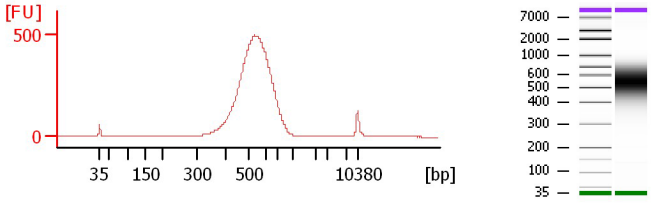
from sheared DNA to size selection







Library prepared by illumina® TruSeq® Nano DNA Library Prep Kit, after 8 cycles of PCR



Library prepared by MCLAB Topomize DNA Library Prep Kit, after 8 cycles of PCR

Figure 1. Library made with 100ng human genomic DNA

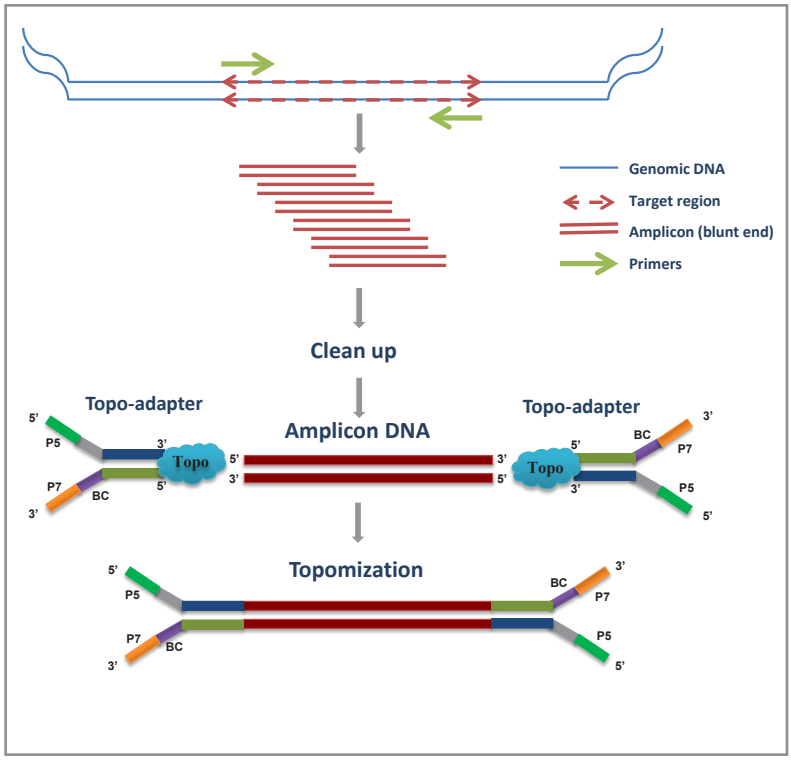
Topomize Amplicon Library Prep Kit

Description

MCLAB's Topomize Amplicon Library Prep Kit is an innovative, fast and high quality amplicon library construction kit for next generation sequencing. Targeted sequencing of large cohorts of samples is a powerful tool for the discovery and detection of disease-causing variants associated with many inherited diseases and cancers. After PCR amplification of the targeted DNA regions, MCLAB's Topomize Amplicon Library Prep Kit can be used to quickly add adapters with barcodes for deep sequencing. Instead of using traditional ligase-based methods, our kit uses topoisomerase-based technology to attach adapters with barcodes (1-24) onto the amplicons. The Topomize Amplicon Library Kit has unparalleled efficiency and yield with no adapter dimers or chimeras. The kit is designed for 10ng to 1µg of each pooled amplicon DNA input, and is compatible with Illumina® platforms. The fast workflow allows the amplicon library to be ready in less than 40 minutes.

Highlights

- **Easy and cost saving primer design:** no linkers or extra nucleotides are needed (except the target region primers)
- **More specific amplifications:** primers are 100% matched to the target regions
- **Versatility:** adapters with barcode can be attached to any blunt end PCR product
- **Unbeatable efficiency:** Topoisomerase based enzymology generates higher adapter attachment rate with no bias
- **High quality:** no adapter dimer or other chimeras
- **Fast workflow:** get your amplicon library ready in less than 40 minutes
- **All-in-One kit:** includes all the reagents for sample prep and compatible with Illumina® platforms



Product Information

TOPOA-50A	24 samples, 12 indexes
TOPOA-50B	24 samples, 12 indexes

MCNext™ DNA Sample Prep Kit

Description

The MCNext™ DNA Sample Prep Kit is a high performance, cost-effective sample prep solution for NGS, using Illumina® platforms. In only 90 minutes, a bead-based, gel-free size selection workflow eliminates the need for mechanical fragmentation and agarose gels in size selection. The availability of 96 paired-end indices facilitates multiplex high-throughput applications. The MCNext™ DNA Sample Prep Kit incorporates different flanking sequence additions by Dialatum™ transposome, resulting in fewer primer-dimers and a better signal/noise ratio in sequencing outcomes.

Fast Prep Workflow

- Complete the protocol in 90 minutes
- Enzymatic fragmentation without sonication
- One-step fragmentation/tagging to save time

Low Input and High Throughput

- Maximum of 50 ng input DNA needed
- Pre-mixed enzymes and nucleotides for multiplexed processing
- Plate-based processing compatible for up to 96 samples per kit

Higher Coverage Rate and Full Compatibility

- Directional transposome doubles the sequencing coverage
- Works on all Illumina® NGS platforms
- Higher coverage rate

Best Value on Market

- All 96 Illumina indices included

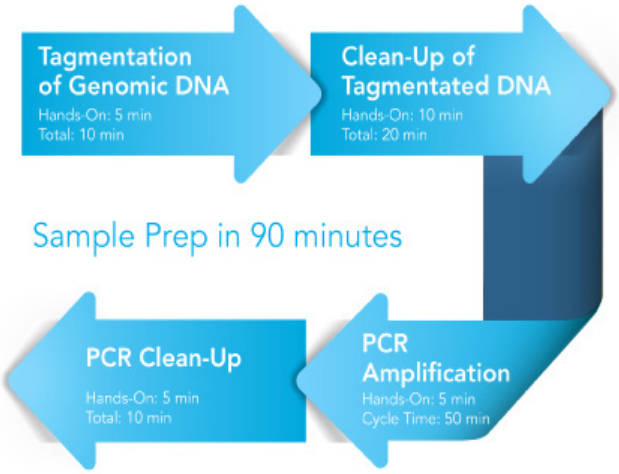


Figure 1: MCNext™ Sample Preparation Kit workflow takes 90 min to finish the sample prep.

Product Information

MNEXT-4	4 Samples, Includes Index Kit (4 Indices)
MNEXT-24	24 Samples, Includes Index Kit (10 Indices)
MNEXT-96	96 Samples, Includes Index Kit (20 Indices)

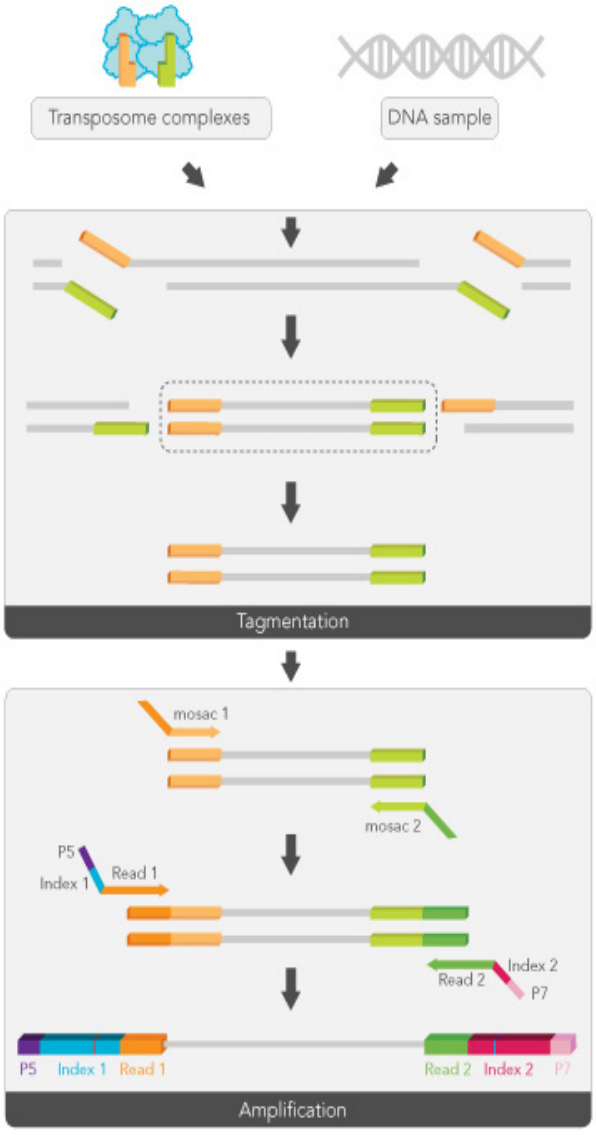


Figure 2: MCNext™ Sample Preparation Kit fragments and directionally tags DNA in a single step to boost sequencing coverage and signal strength. Subsequent limited-cycle PCR amplification adds dual indices to enable up to 96 libraries to be pooled and sequenced.

NGS Library Preparation Kits

MCNext™ UT DNA Sample Prep Kit

Description

MCNext™ UT DNA Sample Prep Kit provides a fast and easy workflow to prepare up to 96 pooled, indexed paired-end libraries from low input amplicons (>400bp), microbial genomes and plasmids for the subsequent cluster generation and DNA sequencing using Illumina® NGS sequencing instruments.

Features

Fast Prep Workflow

- Complete protocol in 110 minutes
- Enzymatic fragmentation without sonication
- One-step fragmentation/tagging to save time

Low Input and High Throughput

- Only 1 ng input DNA needed
- Pre-mixed enzymes and nucleotides for multiplexed processing
- Plate-based processing allows for up to 96 samples per kit

Higher Coverage Rate and Full Compatibility

- Directional transposome doubles the sequencing coverage
- Works on all Illumina® NGS platforms

Best Value on Market

- Complete kit with all reagents included
- All 96 Illumina® indices included
- Standardized library quantification prior to sample pooling and sequencing

Kit Compatibility

- Genome Analyzer IIx
- HiScanSQ™
- HiSeq™ 1000
- HiSeq™ 2000
- HiSeq™ 2500

MiSeq Desktop Sequencer

Product Information

MCUDS-4	4 Samples,	4 Indexes
MCUDS-24	24 Samples,	10 Indexes
MCUDS-96	96 Samples,	20 Indexes

Non-Amplification DNA Library Construction Kit

Description

MCLAB's Non-Amplification DNA Library Construction Kit is a highly efficient library construction kit for preparing paired-end or multiplexed DNA libraries for high-throughput sequencing. This kit can directly construct DNA libraries for next-generation sequencing analysis using Illumina® GAIIx™, HiSeq™ 2000 and MiSeq® sequencing platforms. Preserving the complexity of sequencing libraries, the protocol is quicker than the standard method and provides even coverage data with fewer duplicate reads and less PCR bias for DNA sequencing.

Function

The superior function of MCLAB's Non-Amplification DNA Library Construction Kit depends on our proprietary ligation system. Using a non-amplification method of library preparation with custom adapters, unamplified, ligated DNA samples can hybridize directly to the oligonucleotides on the flow cell surface. The cluster amplification step (rather than using PCR), enriches the flow cell for fully ligated template strands, reducing the incidence of duplicate sequences, improving read mapping and single nucleotide polymorphism calling. Paired end libraries are compatible with both paired and single-end flow cells.

Features

- Simplified library preparation for even coverage data
- Multiplex barcodes available
- Automation-friendly workflow
- Cost-effective solution

Product Information

NGDC-100	20 reactions
NGDC-200	100 reactions

RNA-Seq Library Construction Kit

Description

MCLAB's RNA-Seq Library Construction Kit is a highly efficient library construction kit for preparing single, paired-end or multiplexed cDNA libraries for high-throughput sequencing. This kit can be used to convert RNA transcripts into cDNA whole transcriptome libraries or small RNA libraries for next-generation sequencing analysis using Illumina® GAIIx™, HiSeq™ 2000 and MiSeq® sequencing platforms. While preserving the complexity of sequencing libraries, the protocol is quicker than the standard method and can be used routinely for RNA sequencing.

Function

The superior function of MCLAB's RNA-Seq Library Construction Kit is based on our proprietary enzyme systems. Unique improvement to each key enzyme at specific steps in the library construction workflow increases sensitivity, flexibility and speed for next-generation sequencing. The target RNA fragments can be tagged with linkers at both ends by RNA ligases (Cat# T4RL1-100 and T4RL2T-100). Corresponding cDNA can be synthesized by Universal Reverse Transcriptase (Cat# SSII-100). The cDNA library can be enriched by PCR with high fidelity Pfu DNA Polymerase (Cat# AD-200). After gel- or beads-based purification and size selection, final cDNA libraries can hybridize directly to the oligonucleotides on the flow cell surface for cluster generation and sequencing.

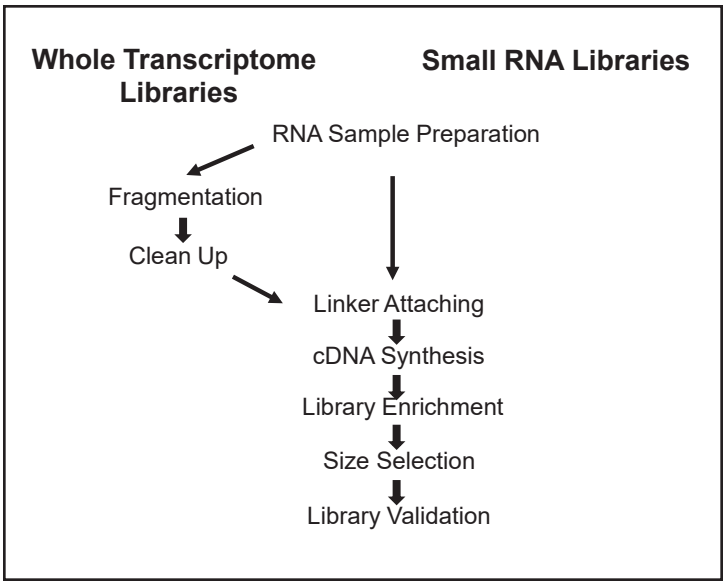


Figure 1. The MCLAB RNA-Seq Library Construction Procedure

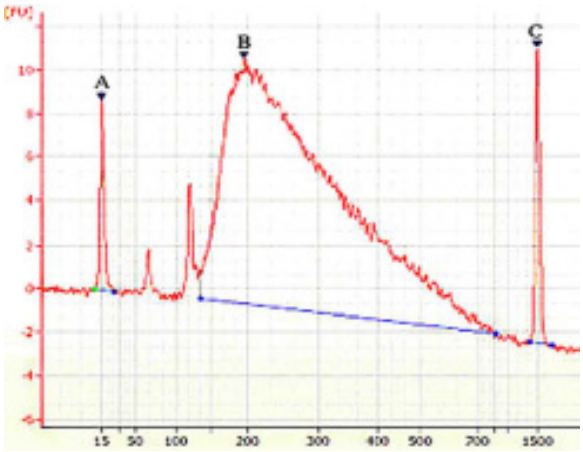


Figure 2. Purified Final RNA-Seq Library Bioanalyzer Profile on a DNA-1000 Chip. Peak A: Lower Marker; Peak B: RNA-Seq Library; Peak C: Upper Marker

Product Information

NGRR-100	8 reactions
NGRR-200	24 reactions
NGRR-300	48 reactions

NGS Library Preparation Kits

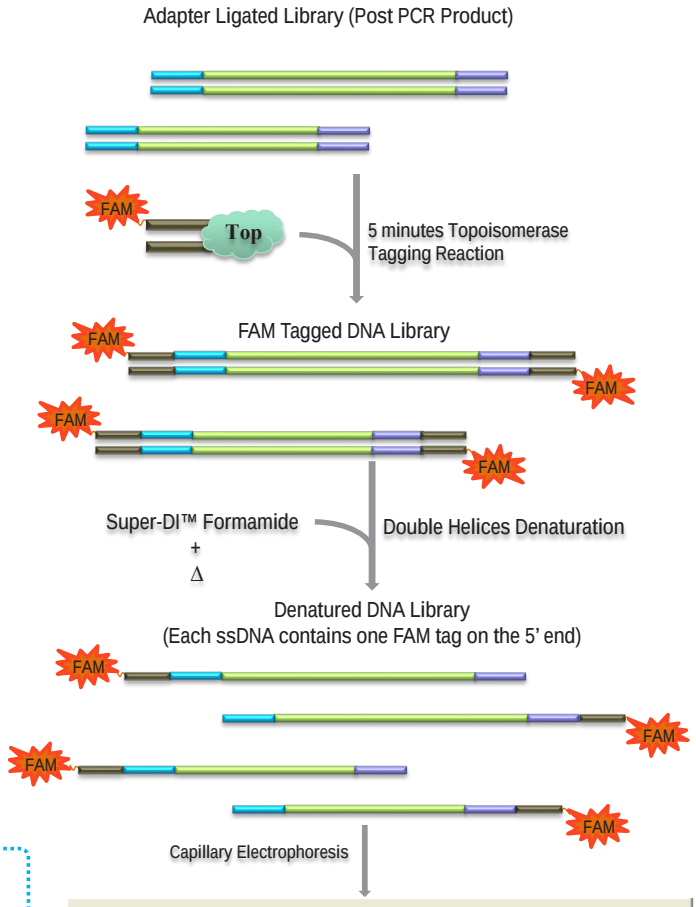
NGS Library Distribution Kit

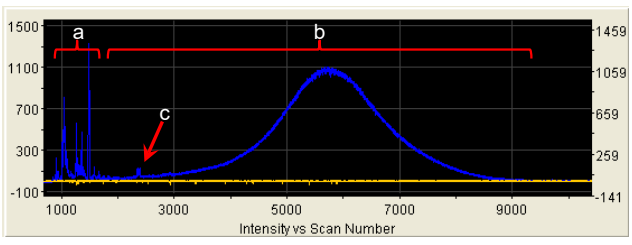
Description

MCLab's NGS Library Distribution Kit is a novel system that offers fast and reliable separation, size distribution and quantification of DNA or RNA libraries. Utilizing Capillary Electrophoresis technology, which can separate molecules with a single base difference, the kit provides high resolution sizing and quality control of your DNA/RNA library.

Key Features

- **Easy and fast sample preparation:** fluorescent labeled DNA oligos can be attached to your amplified NGS library within 5 minutes.
- **High resolution:** separate molecules with single base differences.
- **Ultra high sensitivity:** one signal for each library molecule. Peak sizes are true to molecule quantity. No normalization is needed.
- **Ultra high throughput:** Can analyze 960 samples* in a single run.
- **High accuracy:** DNA ladder added to each sample to eliminate equipment errors and increase size distribution accuracy.





a: Residual peaks from the fluorescent tag reagent.
b: Human genomic DNA library profile.
c: Trace of primer dimers in the amplified DNA library.

Product Information

NLDK-100	48 reactions
NLDK-200	96 reactions

* Total sample numbers depends on the Genetic Analyzer model

NGS Library Preparation Kits

Order Information			
Name	Cat #	Description	Price
Topomize DNA LT Library Prep Kit, Set A	TOPO-100A	24 samples, 12 Indexes	$624.00
Topomize DNA LT Library Prep Kit, Set B	TOPO-100B	24 samples, 12 Indexes	$624.00
Topomize Amplicon Library Prep Kit	TOPOA -50A	24 reactions, 12 Indexes	$480.00
Topomize Amplicon Library Prep Kit	TOPOA -50B	24 reactions, 12 Indexes	$480.00
MCNext™ DNA Sample Prep Kit	MNEXT-4	4 Samples, Includes Index Kit (4 Indices)	$199.00
MCNext™ DNA Sample Prep Kit	MNEXT-24	24 Samples, Includes Index Kit (10 Indices)	$990.00
MCNext™ DNA Sample Prep Kit	MNEXT-96	96 Samples, Includes Index Kit (20 Indices)	$3,366.00
MCNext™ UT DNA Sample Prep Kit	MCUDS-4	4 Samples, Includes Index Kit (4 Indices)	$98.00
MCNext™ UT DNA Sample Prep Kit	MCUDS-24	24 Samples, Includes Index Kit (10 Indices)	$465.00
MCNext™ UT DNA Sample Prep Kit	MCUDS-96	96 Samples, Includes Index Kit (20 Indices)	$1,740.00
Non-Amplification DNA Library Construction	NGDC-100	20 reactions	$780.00
Non-Amplification DNA Library Construction	NGDC-200	100 reactions	$2,730.00
RNA-Seq Library Construction Kit	NGRR-100	8 reactions	$620.00
RNA-Seq Library Construction Kit	NGRR-200	24 reactions	$1,480.00
RNA-Seq Library Construction Kit	NGRR-300	48 reactions	$2,360.00
NGS Library Distribution Kit	NLDK-100	48 reactions	$100.00
NGS Library Distribution Kit	NLDK-200	96 reactions	$160.00

NGS Library Quantification Kit

MCNext™ SYBR® Fast qPCR Library Quantification Kit

Description

The MCNext™ SYBR® Fast qPCR Library Quantification Kit provides researchers with an accurate and sensitive method for quantifying NGS libraries.

Storage Condition: -20 °C

Features

- **Simpler workflow:** direct (MC kit) vs. indirect (KAPA kit) cluster density conversion
- **No quantification errors:** 6-prediluted DNA standards eliminate quantification errors associated with preparation of standard curves
- **Superior accuracy:** Phi X library (MC kit) vs. single DNA fragment (KAPA kit) as standard

Broader Dynamic Range For Library Quantification

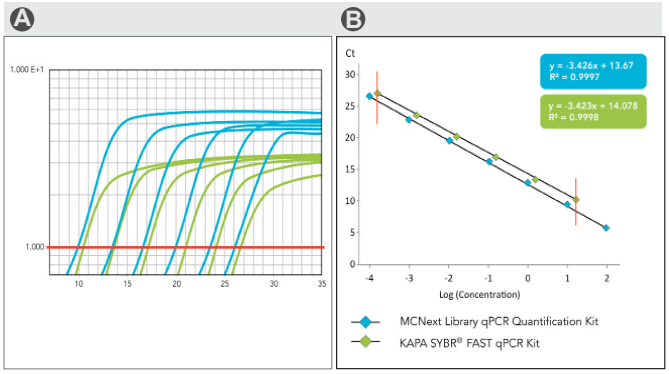


Figure 1. Comparison of amplification plot and standard curve of the Illumina® PhiX library using MCNext™ SYBR® Fast qPCR Library Quantification Kit (blue) versus KAPA SYBR® Fast qPCR Kit (green). A. Amplification plot of 10x serial diluted PhiX library. B. 10-fold serial dilution of PhiX library standard curve. Higher fluorescence and 10x better sample quantification range in linear amplification plots confirm that MCNext™ SYBR® Fast qPCR Library Quantification Kit achieves better efficiency and a broader dynamic range.

More Consistent In Quantification

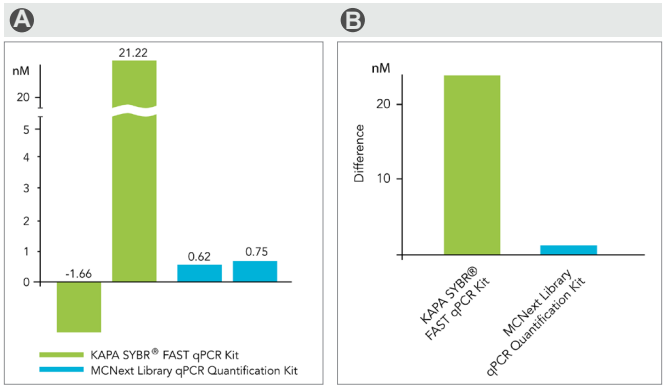


Figure 2. Comparison of library quantification consistency using MCNext™ Library qPCR Quantification Kit (blue) versus KAPA SYBR® Fast qPCR Kit (green). A. Histograms represent quantification results subtracted by actual Illumina® PhiX library concentration (10 nM). B. Standard deviation plot demonstrates superior consistency of MCNext™ SYBR® Fast qPCR Library qPCR Quantification Kit (blue) to KAPA SYBR® Fast qPCR Kit (green).

Direct Cluster Density Conversion

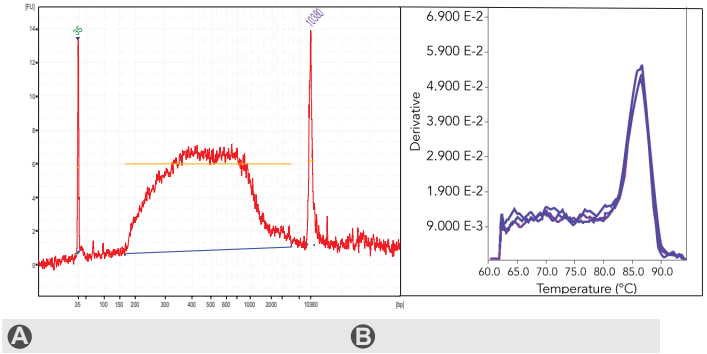


Figure 3. Analytical result of the Phi X Library Standards. A. Electropherogram from Agilent 2100 Bioanalyzer indicates library average size of 500bp sized aligned with the fragmentation design. B. Melting curve shows a single peak without nonspecific amplification products.

Product Information

IQPQ-UN	No ROX added, 500 reactions	$399.00
IQPQ-RF	Regular ROX, 500 reactions	$399.00
IQPQ-LR	Low ROX, 500 reactions	$399.00

No Rox: BioRad iCycler MiniOpticon, Opticon 2, Chromo 4, iQ5; Roche LightCycler 480; MJ Research DNA Engine Opticon 2, Chromo 4; Corbett Rotogene 3000, 6000
Regular Rox: ABI® PRISM® 7000, 7700, 7900HT, ABI® 7300 qPCR Systems, GeneAmp® 5700, StepOne™, and the StepOnePlus™
Low Rox: ABI® 7500 qPCR Systems, ViiA™ 7, QuantStudio™ 12K Flex, Agilent Mx3000P™ and Mx4000™

NGS Reagent Module Kits

Fragmented DNA End-Repair Kit

Description

MCLAB's Fragmented DNA End Repair Kit is used for repairing fragmented DNA ends generated by sonication, nebulization or nucleases. The kit has been optimized for maximum efficiency and convenience in DNA sample preparation for next-generation sequencing (including Illumina® Genomic DNA Sample Prep protocol, Roche 454™ Library Preparation and Life Technologies SOLiD™ Library Preparation).

Applications

DNA repaired by MCLAB's Fragmented DNA End Repair Kit can be used directly for:

- Blunt end cloning
- Blunt-ended adapter ligation
- 3´ dA-tailing (MCLAB dA-Tailing Kit, Cat #: NGDT-100)
- Subsequent ligation (MCLAB DNA Ligation Kit, Cat #: NGDL-100)
- Sequencing results via direct sequencing from PCR products

Features

- Simplified workflow, reduced hands-on time
- Optimized reaction conditions, increased efficiency
- Up to 10µg fragmented DNA
- Automation friendly format

Product Information

NGFD-100	20 reactions
NGFD-200	100 reactions

DNA dA-Tailing Kit

Description

MCLAB's DNA dA-Tailing Kit is used to add an "A" base to the 3´ end of a blunt DNA fragment. This treatment creates 3' A overhangs for the next step of DNA sample preparation or other downstream applications.

Function

The superior function of MCLAB's DNA dA-Tailing Kit relies on our proprietary enzyme systems. Unique improvement to the key enzyme increases sensitivity, flexibility and speed of next-generation sequencing. Through the MCLAB's DNA dA-Tailing Kit, a dAMP can be added to the 3´ end of an end repaired blunt DNA fragment. This prepares the DNA fragment for efficient ligation to the adapters or for cloning vectors with a single "T" base overhang at their 3' ends, and effectively prevents insert-to-insert ligation as well.

Features

- Simplified workflow, reduced hands-on time
- Optimized reaction conditions, increased sensitivity
- Up to 10µg end repaired blunt DNA
- Automation friendly format

Product Information

NGDT-100	20 reactions
NGDT-200	100 reactions

NGS Reagent Module Kits

DNA Ligation Kit

Description

MCLAB's DNA Ligation Kit is used to ligate DNA adapters to dA-tailed DNA fragments. The kit has been optimized for the maximum efficiency and convenience in DNA sample preparation workflow.

Function

The superior function of MCLAB's DNA Ligation Kit based on our proprietary enzyme systems. Unique improvements to each key enzyme increase sensitivity, flexibility and the speed for next-generation sequencing. With the MCLAB's DNA Ligation Kit, DNA adapters with 3' dT overhang can be ligated efficiently to 3' dA-tailed DNA fragments.

Features

- Simplified workflow, reduced hands-on time
- Optimized reaction conditions, increased efficiency
- Automation friendly format

Product Information

NGDL-100	20 reactions
NGDL-200	100 reactions

MCMag™ PCR Purification Kit

Description

MCMag™ PCR purification system utilizes solid-phase reversible immobilization (SPRI) paramagnetic bead technology for PCR amplicon purification. The MCMag™ beads are pre-formulated with an optimized buffer to selectively bind DNA fragments of 100 bp and larger. Excess salts, enzymes, primers and nucleotides can be removed through a simple washing procedure. The MCMag™ PCR Purification system is fully adaptable to automation.

Application

- PCR
- Sequencing
- Fragment Analysis
- Genotyping
- Cloning
- Primer Walking

Product Information

MCPP-5	5 ml
MCPP-60	60 ml
MCPP-450	450 ml

NGS Reagent Module Kits

MCMag™ NGS Library Clean Up & Size Selection Kit

Description

MCMag™ Library Purification kit is a highly efficient purification system for NGS library with size selection and PCR enrichment cleaning. Without centrifugation or filtration, this kit can be easily used in manual or automated 96- or 384-well plate formats.

Features

- Efficient removal of unincorporated dNTPs, primers, primer dimers, salts and other contaminants
- High recovery of double-stranded DNA amplicons greater than 100 bp
- Faster manual or automated processing workflow

Product Information

NLP-5	5 ml
NLP-60	60 ml
NLP-450	450 ml

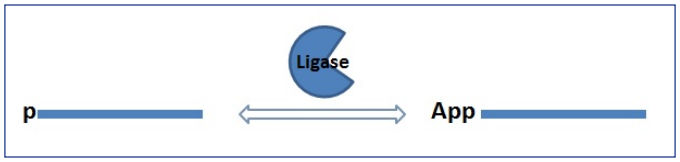
5′ DNA Adenylation Kit

Description

5´ DNA Adenylation Kit is for the enzymatic synthesis of 5′ adenylated ssDNA linkers. The kit produces adenylated DNA with or without a 3´ terminator. The 5´ DNA adenylation kit efficiently generates greater than 95% conversion of pDNA to AppDNA.

Features

- One step reaction. Simple and efficient.
- 65°C reaction temperature reduces secondary structural concerns.
- Highly efficient process eliminates the need for purification of the product.
- Easily scale up from pmol to µmol range.



Application

Enzymatic 5´adenylation of single-stranded DNA linkers for next generation sequencing (NGS).

Kit Components

- 10X 5′ DNA Adenylation Reaction Buffer
  - 500 mM Sodium Acetate (pH 6.0 @ 25°C)
  - 100 mM $MgCl_2$
  - 50 mM DTT
  - 1 mM EDTA
- 1 mM ATP
- Mth RNA Ligase

Storage Temperature: -20°C

Product Information

APPK-100	10 reactions	50 µM (concentration)
APPK-200	50 reactions	50 µM (concentration)

NGS Reagent Module Kits

2X MCAmp Library Amplification Master Mix

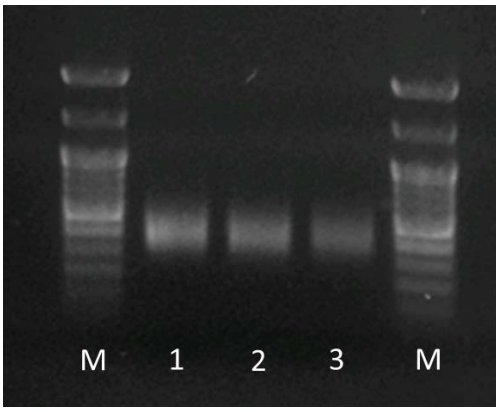
Description

The 2X MCAmp Library Amplification Master Mix has been specially formulated to provide accurate and robust amplification of NGS library fragments. The master mix utilizes a proprietary combination of our ultra-fast, high-fidelity DNA polymerases. The polymerases all possess 3'->5' exonuclease (proofreading) activity with a processivity 10 times greater than generic DNA polymerases. The reaction buffer has been optimized to provide robust amplification of library fragments even with low input and GC or AT rich sequences. The resulting amplifications have robust yield with high-fidelity, low PCR duplication, and low bias which produces greater and more uniform coverage, especially in challenging genomic regions.
For Illumina® platforms, an optimized 10X Primer Set targeting the P5 and P7 sites is also available.

Features

- **High-fidelity:** The master mix utilizes DNA polymerases that all possess 3'->5' exonuclease (proof-reading) activity for accurate nucleotide incorporations into your final products.
- **High-efficiency:** The polymerases in the master mix have ultra-high processivity so that less cycles are required for sequence ready libraries.
- **Low bias and PCR duplication:** Optimized buffer formulation to minimize amplification bias and PCR duplication. This results in a greater number of reads with more uniform coverage, helping to minimize cost and time.

A



B

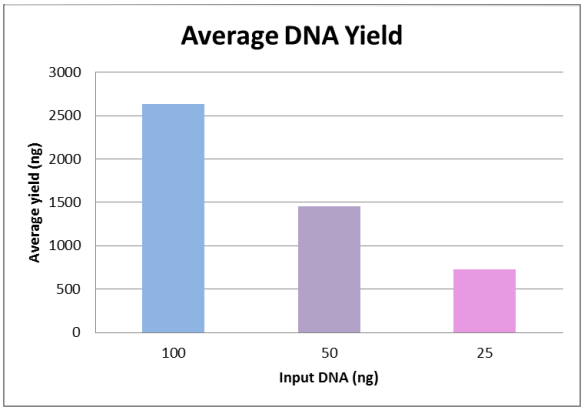


Figure: Library preparation and amplification results from varying input quantities of sheared human genomic DNA. Library preparation and size selection (~350 bp) was carried out using MCLAB's Topomize DNA Library Prep Kit. All amplifications were carried out to eight cycles. A. Agarose gel image after library amplification and clean up showing stable size distribution. M: 100 bp marker. Lane 1: 100 ng input DNA. Lane 2: 50 ng input DNA. Lane 3: 25 ng input DNA. B. Average DNA yield of corresponding gel agarose samples determine by qPCR using MCNext™ SYBR® Fast qPCR Library Quantification Kit.

Storage Temperature: -20°C

Heat Inactivation: No

Unit Assay Conditions:

25 mM TAPS-HCl (pH 9.3 @ 25°C), 50 mM KCl, 2 mM $MgCl_2$, 1 mM β-mercaptoethanol, 200 µM dNTPs including [3H]-dTTP and 400 µg/ml activated Calf Thymus DNA.

Product Information

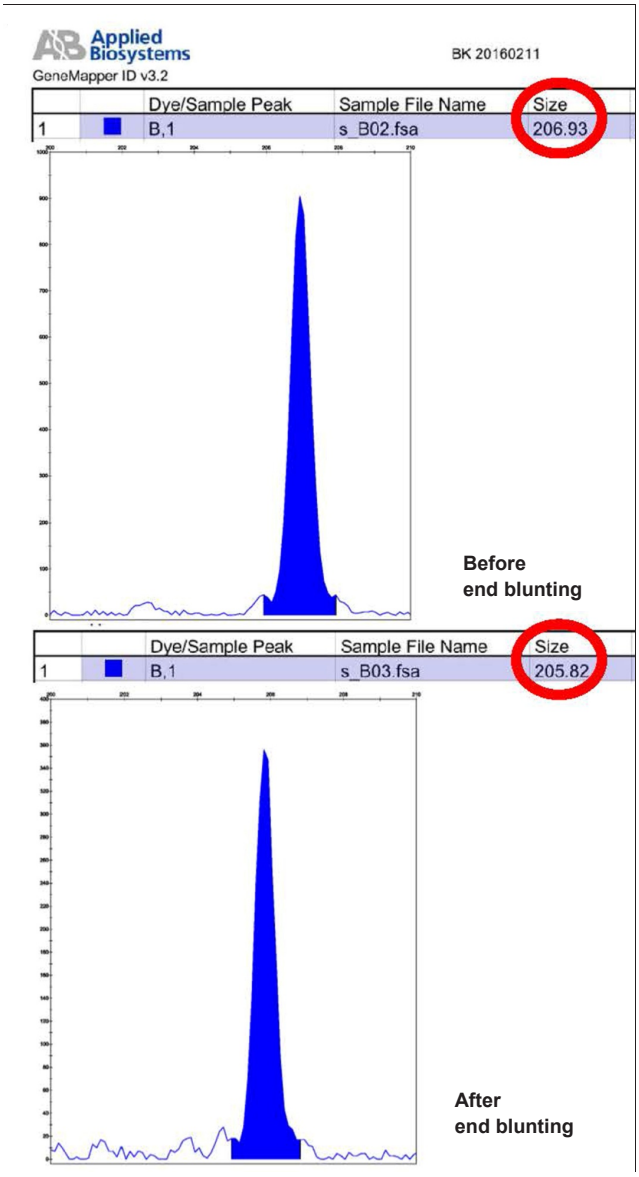
LIBA-50	50 x 50ul reactions, 1.25 mL
LIBA-250	250 x 50ul reactions, 6.25 mL
LIBAP-50	50 x 50ul reactions, 1.25 mL + 250ul primer set
LIBAP-250	250 x 50ul reactions, 6.25 mL + 1.25 mL primer set

NGS Reagent Module Kits

The Blunting Express Kit

Description

The Blunting Express Kit can be used to generate blunt-ended DNA fragments for subsequent use in ligation, cloning, cDNA construction, and MCLAB's Topomize Amplicon Library Prep Kit (Cat# TopoA-50A or TOPOA-50B). Our proprietary enzyme mix effectively fills in 5' overhangs and eliminates A-tailed 3' overhangs on the template. This Blunting Express Kit is optimized to provide a rapid workflow with only 2 minutes of incubation. Efficiency is combined with a high performance to streamline your blunt-end objectives.



Applications

- Ligation
- Cloning
- cDNA construction
- Topomize Amplicon Library Prep

Kit Components

- 10x Buffer
- dNTP Mix (25mM)
- Enzyme Mix

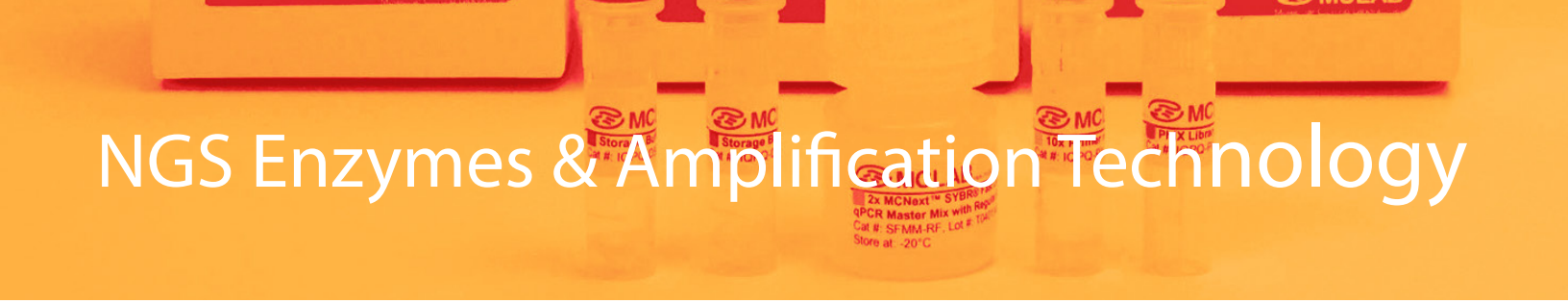
Storage Temperature: -20° C

Product Information

BLEK-100	20 reactions
BLEK-200	50 reactions
BLEK-300	100 reactions

NGS Reagent Module Kits

Order Information			
Name	Cat #	Description	Price
Fragmented DNA End-Repair Kit	NGFD-100	20 reactions	$54.00
Fragmented DNA End-Repair Kit	NGFD-200	100 reactions	$160.00
DNA dA-Tailing Kit	NGDT-100	20 reactions	$75.00
DNA dA-Tailing Kit	NGDT-200	100 reactions	$300.00
DNA Ligation Kit	NGDL-100	20 reactions	$225.00
DNA Ligation Kit	NGDL-200	100 reactions	$990.00
MCMag PCR Purification Kit	MCPP-5	5 mL	$225.00
MCMag PCR Purification Kit	MCPP-60	60 mL	$835.00
MCMag PCR Purification Kit	MCPP-450	450 mL	$4150.00
MCMag™ NGS Library Clean Up & Size Selection Kit	NLP-5	5 mL	$250.00
MCMag™ NGS Library Clean Up & Size Selection Kit	NLP-60	60 mL	$935.00
MCMag™ NGS Library Clean Up & Size Selection Kit	NLP-450	450 mL	$4648.00
5´ DNA Adenylation Kit	APPK-100	10 reactions, 50 µM	$80.00
5´ DNA Adenylation Kit	APPK-200	50 reactions, 50 µM	$300.00
2X MCAmp library amplification master mix	LIBA-50	50 x 50ul reactions, 1.25 mL	$65.00
2X MCAmp library amplification master mix	LIBA-250	250 x 50ul reactions, 6.25 mL	$250.00
2X MCAmp library amplification master mix	LIBAP-50	50 x 50ul reactions, 1.25 mL + 250ul primer set	$90.00
2X MCAmp library amplification master mix	LIBAP-250	250 x 50ul reactions, 1.25 mL + 1.25mL primer set	$310.00
The Blunting Express Kit	BLEK-100	20 reactions	$75.00
The Blunting Express Kit	BLEK-200	50 reactions	$175.00
The Blunting Express Kit	BLEK-300	10 reactions	$300.00



NGS Enzymes & Amplification Technology

T4 DNA Polymerase

Description

T4 DNA Polymerase catalyzes the extension of a primed DNA template in the 5′-> 3′ direction. This enzyme exhibits a powerful 3′-> 5′ exonuclease activity, while lacking any 5′-> 3′ exonuclease or strand displacement functions.

Applications

- 3′-overhang removal to form blunt ends
- 5′-overhang fill-in to form blunt ends
- Single strand deletion for sub-cloning
- Second strand synthesis in site-directed mutagenesis
- Probe labeling using replacement synthesis

Product Information

T4DP-100	150 units, 3 U/µl
T4DP-200	750 units, 3 U/µl
T4DP-300	3,000 units, 3 U/µl

Uracil DNA Glycosylase (UDG)

Description

Uracil-DNA Glycosylase catalyzes the hydrolysis of the N-glycosylic bond between the uracil and sugar, leaving an abasic site in uracil-containing single or double-stranded DNA. The enzyme shows no measurable activity on short oligonucleotides (<6 bases), or RNA substrates.

Application

- Control of carry-over contamination in PCR
- Glycosylase mediated single nucleotide polymorphism detection (GMPD)
- Site-directed mutagenesis
- As a probe for protein-DNA interaction studies
- SNP genotyping
- Cloning of PCR products
- Generation of single-strand overhangs of PCR products and cDNA

Product Information

UDG-100	5,000 Units, 20 U/µl
UDG-200	20,000 Units, 20 U/µl
UDG-OEM	Any Size

Pfu DNA Polymerase

Description

Pfu DNA Polymerase is a highly thermostable DNA polymerase from the hyperthermophilic archaeum *Pyrococcus furiosus*. The enzyme catalyzes the template-dependent polymerization of nucleotides into duplex DNA in the 5′->3′ direction. It has no 5′->3′ exonuclease activity. The main difference between *Pfu* and alternative enzymes is *Pfu*'s superior thermostability and 'proofreading' properties. Unlike *Taq* DNA polymerase, *Pfu* DNA polymerase also possesses 3′->5′ exonuclease proofreading activity, resulting in PCR fragments with fewer errors than *Taq*-generated PCR amplicons. *Pfu* DNA polymerase is efficient for techniques that require high-fidelity DNA synthesis, but can also be used in conjunction with *Taq* polymerase to obtain the fidelity of *Pfu* with the speed of *Taq* polymerase.

Application

- High-fidelity PCR
- PCR cloning and blunt-end amplification product generation
- RT-PCR for cDNA cloning and expression
- Site-directed mutagenesis

Product Information

AD-200	500 Units, 2.5 U/µl
AD-205	1,000 Units, 2.5 U/µl
AD-210	2,500 Units, 2.5 U/µl
AD-OEM	Any Size

NGS Enzymes & Amplification Technology

T4 DNA Ligase

Description

T4 DNA Ligase catalyzes the formation of a phosphodiester bond between juxtaposed 5′ phosphate and 3′ hydroxyl termini in duplex DNA or RNA using ATP as a cofactor. The enzyme will join blunt ends and cohesive ends termini as well as repair single-stranded nicks in duplex DNA and DNA/RNA hybrids.

Product Information

TL-050	250 Weiss units, 5 U/µl
TL-100	1,250 Weiss units, 5 U/µl
TL-200	1,250 Weiss units, 25 U/µl
TL-300	5,000 Weiss units, 5 U/µl
TL-400	5,000 Weiss units, 25 U/µl
TL-OEM	Any Size

T7 DNA Ligase

Description

T7 DNA Ligase catalyzes the formation of a phosphodiester bond between a 5′ phosphate and a 3′ hydroxyl termini in duplex DNA. The enzyme can efficiently join cohesive ends and nicks, but not blunt ends.

Applications

- Cloning of DNA fragments generated by restriction enzyme digestion
- Adding linkers or adapters to dsDNA
- Circularization of linear DNA
- Nick-sealing in dsDNA
- Site-directed mutagenesis

Product Information

T7DL-100	1,500 Weiss units, 45 U/µl
T7DL-200	11,250 Weiss units, 45 U/µl
T7DL-300	45,000 Weiss units, 45 U/µl

T4 RNA Ligase 1 (ssRNA Ligase)

Description

T4 RNA Ligase 1 catalyzes the ligation of a 5′ phosphoryl-terminated nucleic acid donor to a 3′ hydroxyl-terminated nucleic acid acceptor through the formation of a 3′-5′ phosphodiester bond. Substrates include single-stranded RNA and DNA as well as dinucleoside pyrophosphates.

Applications

- Labeling of 3′ termini of RNA with 5′-[$_{32}$P] pCp
- Inter- and intramolecular joining of RNA and DNA molecules
- Synthesis of single-stranded oligodeoxyribo-nucleotides
- Incorporation of unnatural amino acids into proteins
- Ligation of ssRNA and DNA

Product Information

T4RL1-100	5,000 units, 20 U/µl
T4RL1-200	20,000 units, 20 U/µl
T4RL1-OEM	Any Size

T4 RNA Ligase 2 (truncated)

Description

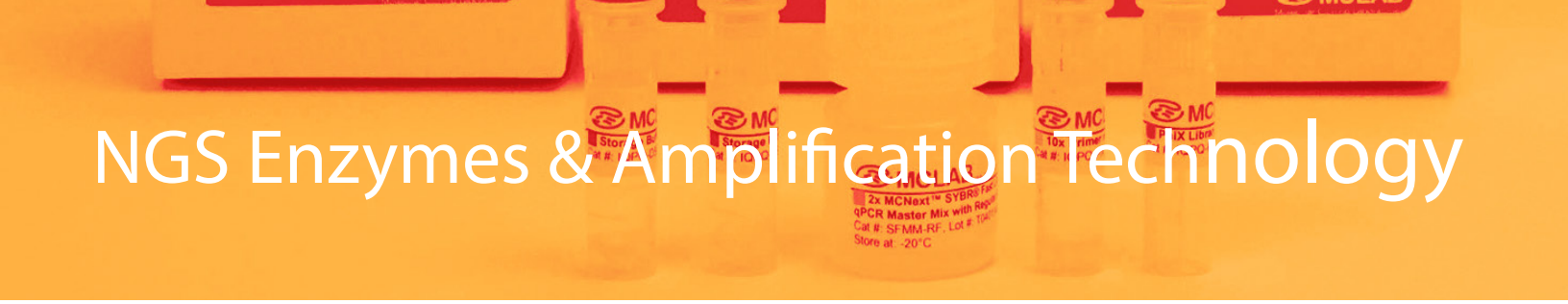
MCLAB's truncated T4 RNA Ligase 2 (RNL2) was developed specifically for demanding Next-Generation RNA Sequencing applications. The truncated ligase 2 specifically ligates the adenylated 5′ end of an adapter to the 3′ end of RNA. The enzyme does not require ATP for ligation but does need an adenylated substrate. By not having extra ATP in the reaction, it dramatically reduces the amount of ligation between random RNA molecules.

Features

- Next-Generation RNA Sequencing
- Efficiency of ligation at nearly 100%
- Increase ability to identify miRNAs

Product Information

T4RL2T-100	5,000 units, 200 U/µl
T4RL2T-200	20,000 units, 200 U/µl
T4RL2T-OEM	Any Size



NGS Enzymes & Amplification Technology

Order Information			
Name	**Cat #**	**Description**	**Price**
T4 DNA Polymerase	T4DP-100	150 units, 3 U/µl	$50.00
T4 DNA Polymerase	T4DP-200	750 units, 3 U/µl	$182.00
T4 DNA Polymerase	T4DP-300	3,000 units, 3 U/µl	$546.00
Uracil DNA Glycosylase (UDG)	UDG-100	5,000 U, 20 U/µl	$134.00
Uracil DNA Glycosylase (UDG)	UDG-200	20,000 U, 20 U/µl	$402.00
Uracil DNA Glycosylase (UDG)	UDG-OEM	Any Size	
Pfu DNA Polymerase	AD-200	500 Units, 2.5 U/µl	$185.00
Pfu DNA Polymerase	AD-205	1,000 Units, 2.5 U/µl	$295.00
Pfu DNA Polymerase	AD-210	2,500 Units, 2.5 U/µl	$405.00
Pfu DNA Polymerase	AD-OEM	Any Size	
T4 DNA Ligase	TL-050	250 Weiss units, 5 U/µl	$54.00
T4 DNA Ligase	TL-100	1,250 Weiss units, 5 U/µl	$178.00
T4 DNA Ligase	TL-200	1,250 Weiss units, 25 U/µl	$178.00
T4 DNA Ligase	TL-300	5,000 Weiss units, 5 U/µl	$534.00
T4 DNA Ligase	TL-400	5,000 Weiss units, 25 U/µl	$534.00
T4 DNA Ligase	TL-OEM	Any Size	
T7 DNA Ligase	T7DL-100	1,500 Weiss units, 45 U/µl	$50.00
T7 DNA Ligase	T7DL-200	11,250 Weiss units, 45 U/µl	$179.00
T7 DNA Ligase	T7DL-300	45,000 Weiss units, 45 U/µl	$537.00
T4 RNA Ligase 1	T4RL1-100	5,000 units, 20 U/µl	$136.00
T4 RNA Ligase 1	T4RL1-200	20,000 units, 20 U/µl	$462.00
T4 RNA Ligase 1	T4RL1-OEM	Any Size	
T4 RNA Ligase 2 (truncated)	T4RL2T-100	5,000 units, 200 U/µl	$136.00
T4 RNA Ligase 2 (truncated)	T4RL2T-200	20,000 units, 200 U/µl	$408.00
T4 RNA Ligase 2 (truncated)	T4RL2T-OEM	Any Size	

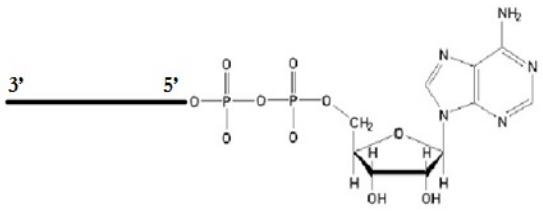
NGS Miscellaneous

5′ Adenylation (rApp Modification) Service

Description
The custom 5′ adenylation service is designed for generating 5′ pre-adenylated DNA/RNA oligonucleotides. Adenylated oligos with a pyrophosphate linkage are substrates of T4 RNA ligase in the absence of ATP, which can significantly reduce undesired self-ligation and other side products.

Application
5′ adenylated oligos are used in sequence detection, sequence capture, sequencing by ligation and attachment of adapters (e.g. RNA library preparation for NGS and miRNA library construction), etc.

Starting material requirements
1) Order oligos with 5′ phosphate.
2) To prevent a 5′ adenylated oligo from self-ligating, a blocking group is required on the 3′ end, such as a 2′, 3′-Dideoxynucleotide or 3′ (C3) Propyl Spacer.
3) 5′ adenylated oligos require an extra purification after the adenylation step and are not compatible with heat-sensitive modifications. Prices are valid for oligonucleotides up to 30 bases. For longer oligos, please inquire for a custom quotation.



Service Information

5APP-100	100 nmole DNA Oligo
5APP-200	250 nmole DNA Oligo
5APP-300	1 µmole DNA Oligo
5APP-400	5 µmole DNA Oligo
5APP-500	10 µmole DNA Oligo

Fpg, E. coli

Description
Fpg (also known as Formamidopyrimidine DNA glycosylase, Mut M, FAPY DNA Glycosylase, and 8-oxoguanine DNA glycosylase) participates in the base-excision (BER) repair pathway of DNA repair enzymes and acts as a N-glycosylase and an AP-lyase. The N-glycosylase activity releases damaged purines from double stranded DNA, generating an apurinic/apyrimidinic (AP site). The AP-lyase activity cleaves both the 3′ and 5′ phosphodiester bonds at the AP site, producing a 1 base gap in the DNA and 3′ and 5′ phosphate termini. Bases recognized and removed by Fpg include 7, 8-dihydro-8-oxoguanine (8-oxoguanine), 8-oxoadenine, fapy-guanine, methy-fapy-guanine, fapy-adenine, aflatoxin B1-fapy-guanine, 5-hydroxy-cytosine and 5-hydroxy-uracil.

Applications
- DNA Nicking
- DNA Repair
- Nick Translation

Product Information

FPG-100	2,500 U, 10 U/µl
FPG-200	10,000 U, 10 U/µl
FPG-OEM	Any Size

RNA Storage Buffer

Description
RNA is prone to degradation or other loss during storage. It is critical that optimal methods are employed for RNA suspension and long-term storage. MCLAB's RNA Storage Buffer, with optimized reagents and pH, provides superior preservation and greater RNA stability for RNA samples than standard TE Buffer or just water.

Applications
- Reverse Transcription
- In vitro Transcription
- Northern Analysis
- Nuclease Protection Assays

Product Information

RSB-100	100 ml
RSB-200	500 ml

RCA DNA Amplification Kit

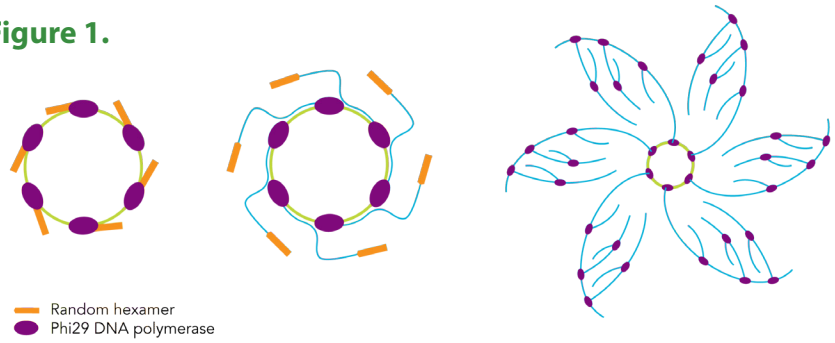
Description

RCA DNA Amplification Kit is a novel product developed specifically to prepare templates for DNA sequencing. As illustrated in Figure 1, the RCA method utilizes bacteriophage phi29 DNA polymerase to exponentially amplify single- or double-stranded circular DNA templates by rolling circle amplification (RCA). This isothermal amplification method produces microgram quantities of DNA from picogram amounts of starting material in a few hours.

Amplification in vitro of very small amounts of template DNA eliminates the need for overnight cell culture and conventional plasmid or M13 DNA purification. The proofreading activity of phi29 DNA polymerase ensures high fidelity DNA replication.

The starting material for amplification can be a small amount of bacterial cells containing plasmids, isolated plasmids, intact M13 phage, or any circular DNA samples. Bacterial colonies can be picked from agar plates and added directly to the RCA reaction. Alternatively, microliter quantities of a saturated bacterial culture or a glycerol stock can serve as starting material. Depending on the source of the starting material, amplification is completed in 4–18 hours at 30 ˚C with no need for thermal cycling. The product of the RCA reaction is high molecular weight, double-stranded concatemers of the circular template.

Figure 1.



Schematic of the RCA process. Random hexamer primers anneal to the circular template DNA at multiple sites. Phi29 DNA polymerase extends each of these primers. When the DNA polymerase reaches a downstream extended primer, strand displacement synthesis occurs. The displaced strand is rendered single-stranded and available to be primed by more hexamer primers. The process continues, resulting in exponential, isothermal amplification.

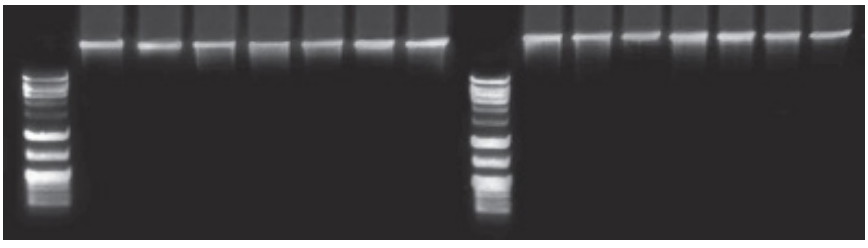


Figure 2. RCA 2x Mix amplified templates

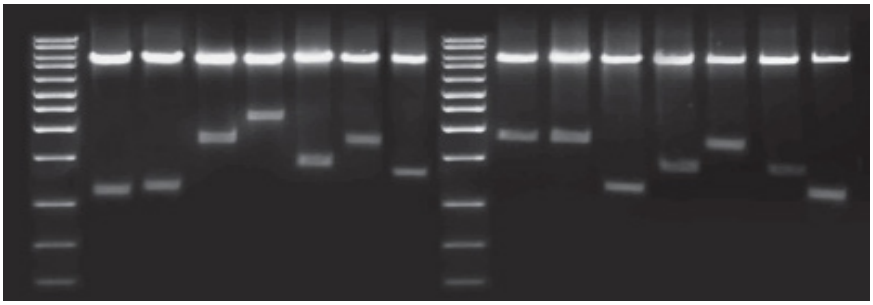


Figure 3. Restriction enzyme digested amplified templates

Product Information

PPK-100	100 reactions
PPK-200	500 reactions
PPK-OEM	Any Size

NGS Miscellaneous

RNAse Inhibitor

Description

RNAse Inhibitor is an acidic, 52 kDa protein that is a potent, non-competitive inhibitor of pancreatic-type ribonucleases such as RNase A, RNase B, and RNase C. The enzyme is provided as a fusion of the porcine RNAase Inhibitor gene with a proprietary, 22.5 kDa protein tag.

Application

- Inhibits ribonucleases (RNases) A, B and C

Figure 1. RNA incubated at 37°C overnight with
1) DEPC-treated H_2O only
2) RNase inhibitor

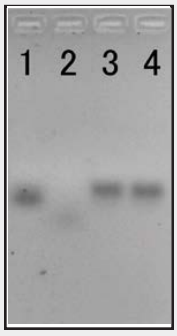


Figure 2. RNA incubated at 37°C for 30 minutes with
1) DEPC-treated H_2O only
2) RNase A only
3) RNase A + RNase inhibitor
4) RNase inhibitor only

Product Information

RNIN-100	20,000 units, 40 U/µl
RNIN-200	40,000 units, 40 U/µl
RNIN-OEM	Any Size

ATP Sulfurylase (Yeast)

Description

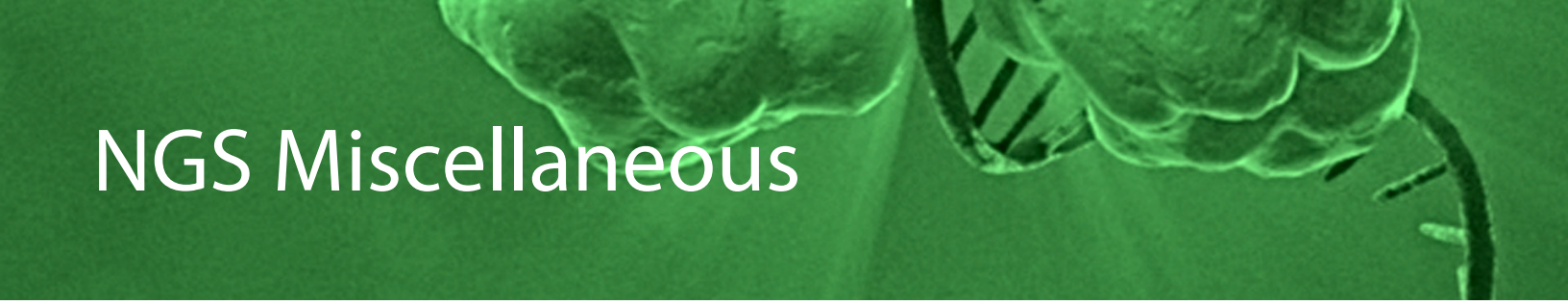
Adenosine 5′-Triphosphate Sulfurylase Yeast Recombinant produced in *E. coli* is a non-glycosylated, polypeptide chain containing 511 amino acids with a MW of 57.7 kDa. Adenosine 5′-Triphosphate Sulfurylase Yeast Recombinant catalyzes the activation of sulfate by transferring sulfate to the adenine monophosphate moiety of ATP to form adenosine 5′-phosphosulfate (APS) and pyrophosphate (PPi). The reaction is reversible: ATP is formed from APS and PPi. Adenosine 5′-Triphosphate Sulfurylase is purified by proprietary chromatographic techniques.

Applications

- Synthesizes adenosine 5′-sulphatophosphate from ATP and inorganic SO_4^{2-}.
- Catalyzes the activation of sulfate by transferring sulfate to the adenine monophosphate moiety of ATP to form adenosine 5′-phosphosulfate (APS) and pyrophosphate (PPi).

Product Information

ATPSY-100	200 µl, 2 mg/ml
ATPSY-200	500 µl, 2 mg/ml
ATPSY-OEM	Any Size



NGS Miscellaneous

miRNA cDNA Synthesis & qPCR Kit

Description

Small, non-coding miRNAs are widely present in eukaryotes. Many studies show evidence that miRNAs control many important physiological processes in cell development and differentiation. Therefore, quantitative assaying of miRNA is important in both basic and applied research.

The miRNA cDNA Synthesis Kit provides a universal first-strand cDNA synthesis system which combines optimized polyadenylation with reverse transcription reactions based on the proprietary high quality enzymes. The robust kit is ideal for most reliable first strand synthesis with higher cDNA yields, sensitivity, and accurate quantitation from 10 pg to 1 µg of total RNA input.

The universal first-strand cDNA synthesis allows the detection of mRNA species, including β-Actin and GapDH, from the same cDNA sample. The miRNA-specific amplification can be done with target-specific PCR forward primer during the subsequent PCR reactions. When compared to traditional hybridization-based detection methods, such as Northern blot analysis, the qRT-PCR method is faster, more specific, more sensitive and uses less sample material.

Applications

- Efficient reverse transcription of miRNAs into cDNA in a single step.
- Precise quantitative and accurate measurement of miRNA expression profiles with Universal qPCR Primer (included in the kit) gives you the flexibility to order your qPCR detection reagents separately.
- Differentiation between mature and precursor miRNA.
- Profiling of small RNAs, miRNAs, or mRNAs from a single cDNA synthesis reaction.

Product Information

MCSQ-100	20 reactions
MCSQ-200	100 reactions

QuantumScript™ HD Reverse Transcriptase

Description

QuantumScript™ HD Reverse Transcriptase is a newly engineered version based on QuantumScript™ Reverse Transcriptase with increased sensitivity, improved specificity and maximum thermal stability. QuantumScript™ HD Reverse Transcriptase has been engineered to have longer half life at 50°C which enables its ability to process longer RNA with more complicated secondary structures. Enhanced thermostability of this enzyme is obtained through a re-engineered RNA-based DNA Polymerase domain and the fusion of a novel RNA-interacting surface domain at the RNase H domain site. The enzyme is purified to near homogeneity to ensure high-thermostability, high-specificity, high-fidelity, high-yield and more full length cDNA synthesis. The optimal first-strand cDNA synthesis temperature for this enzyme is 50° C, and it has a broad working temperature range from 37° C to 55° C, with cDNA product size from 100 bp to 12 Kb.

Product Information

SSIII-50	2,000 U, 200 U/µl
SSIII-100	10,000 U, 200 U/µl
SSIII-200	50,000 U, 200 U/µl
SSIII-300	100,000 U, 200 U/µl

QuantumScript™ Reverse Transcriptase

Description

QuantumScript™ Reverse Transcriptase is a newly engineered version of MMLV reverse transcriptase with minimum RNase H activity and enhanced thermal stability. The enzyme is purified to near homogeneity to ensure high performance. The optimal first-strand cDNA synthesis temperature for this enzyme is 42°C, with cDNA product size from 100 bp to 7 Kb.

Product Information

SSII-25	2,000 U, 200 U/µl
SSII-50	10,000 U, 200 U/µl
SSII-100	50,000 U, 200 U/µl
SSII-200	200,000 U, 200 U/µl

NGS Miscellaneous

SmartRT™ Reverse Transcriptase

Description

SmartRT™ Reverse Transcriptase is an engineered MMLV RT that improves the enzyme's thermostability, reduces RNase H activity and its cDNA synthesis ability. The enzyme also has a terminal transferase activity, where it adds a few extra nucleotides to the end of the synthesized cDNA. With a 3' modified oligo dT primer and a 5' SMART universal oligo containing a terminal complementation to nucleic acids at the 3' end of the first-strand cDNA, the SmartRT™ reverse transcriptase will produce RACE ready full-length cDNA.

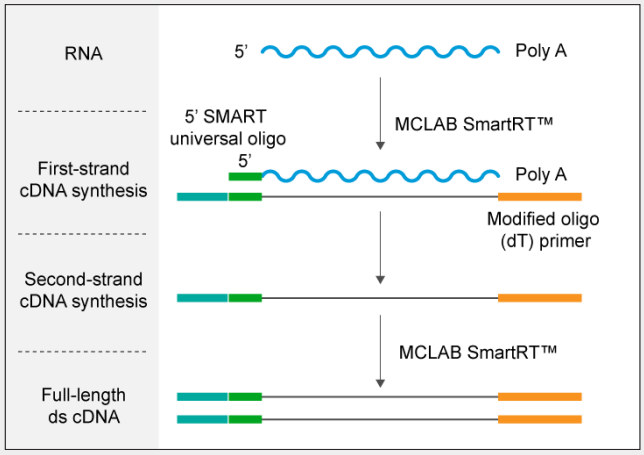
Features

High thermostability with terminal transferase activity

Application

Reverse transcription and RACE ready full length cDNA synthesis

Figure



Smart cDNA synthesis compared to conventional cDNA synthesis. Unlike conventional cDNA synthesis methods which involve multiple enzymes and/or multiple steps, the Smart cDNA synthesis protocol is performed by a reverse transcription reaction, in a single tube, with no adapter ligation or intervening purification steps. Following PCR amplification, Smart cDNA is immediately available for a variety of downstream applications.

Product Information

SMRT-100	4,000 U (40 reactions)
SMRT-200	10,000 U (100 reactions)
SMRT-300	40,000 U (400 reactions)

DNA Storage Buffer (Low Concentration)

Description

Low concentration solutions of DNA are prone to DNA degradation or other loss. It is critical that optimal methods are employed for DNA suspension and long-term storage. MCLAB's DNA Storage Buffer contains proprietary stabilizers and reagents that preserve DNA quality.

The DNA Storage Buffer is suitable for long-term storage of small amounts of next generation sequencing (NGS) libraries and provides degradation resistance during freeze-thaw cycles. It is also appropriate for making highly dilute NGS libraries for quantification assays.

It is recommended to handle MCLAB's DNA Storage Buffer with low adhesion/binding pipette tips and tubes for better performance.

Applications

- Long-term storage of NGS libraries
- Diluting NGS libraries for quantification assays

Product Information

DSB-100	50 ml
DSB-200	100 ml

DNA Homopolymeric Tailing Super Mix Kit

Description

The DNA Homopolymeric Tailing Kit provides high quality reagents for the addition of homopolymer tails to the 3′ ends of DNA with terminal deoxynucleotidyl transferase (TdT). Under optimized assay conditions, approximately 30~70nt oligo(dA) and oligo(dT) or 15~45nt oligo(dC) and oligo(dG) can be added to the target substrate.

TdT is a template-independent DNA polymerase that catalyzes the repetitive addition of deoxynucleotides to the 3′ hydroxyl terminus of DNA molecules. The enzyme was generated from an *E. coli* strain that carries the cloned TdT gene from calf thymus with selected mutations. Protruding, recessed or blunt-ended double or single-stranded DNA molecules serve as a substrate for TdT. The addition of dNTPs to 3′-overhanging ends is more efficient than with 3′-recessed or blunt ends. TdT incorporates dATP and dTTP with a higher efficiency than dCTP and dGTP. The optimized master mix stimulates the tailing of the 3′-ends of DNA fragments and is also applicable for incorporating ribonucleotides and modified nucleotides (e.g., fluorescein-, biotin-, aminoallyl-labeled nucleotides and dideoxynucleotides).

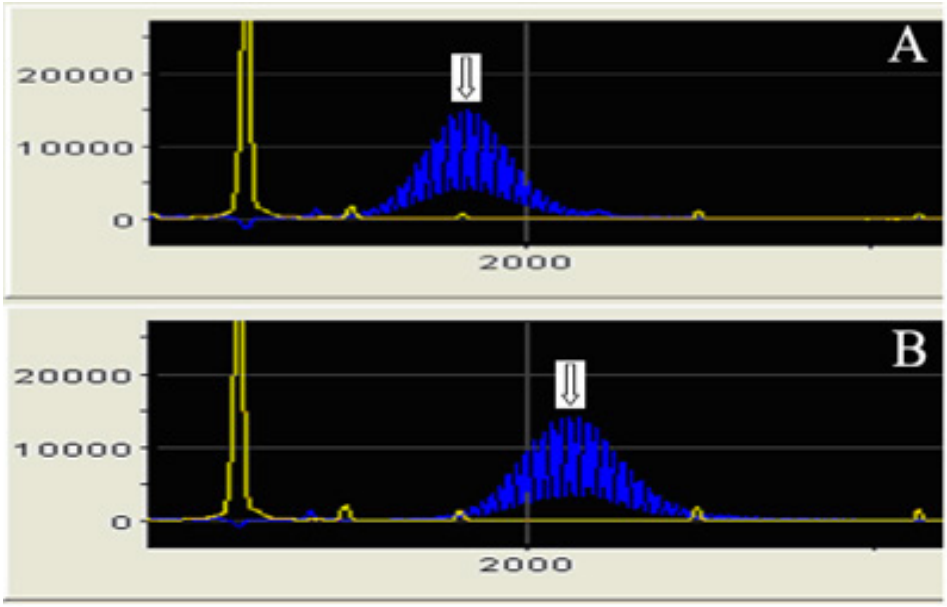


Figure 1: Fragment analysis through 3730 xl DNA Analyzer shows an oligo (dA) tail was added to 5′ fluorescently labeled single-strand DNA oligo using DNA Homopolymeric Tailing Master Mix (dA) Kit. Arrow: Tailing reaction final product. A: Fifteen minutes at 37°C reaction product with a 50 nt average length of homopolymer dA tail. B: Thirty minutes at 37°C reaction product with a 65 nt average length of homopolymer dA tail.

Product information:

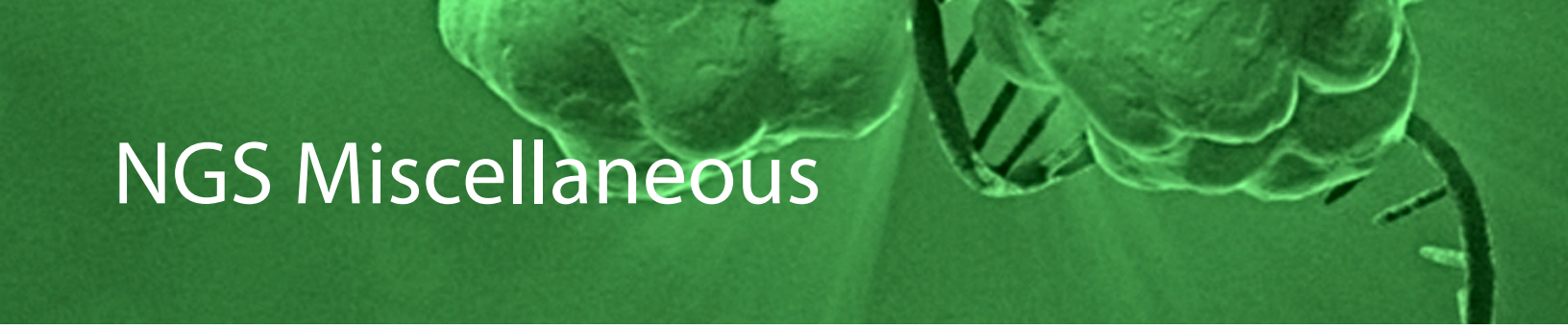
The DNA Homopolymeric Tailing Kit is supplied at 2X concentration to allow approximately 50% of the final reaction volume to be used for the addition of substrate solution. Reagents sufficient for 20 or 100 tailing reactions of 10 µL each are provided.

DNA Homopolymeric Tailing Kit 20-rxn size:
Tailing Enzyme 10µL supplied with 2x:

NGMA-100	Master Mix (dA) 100µL
NGMT-100	Master Mix (dT) 100µL
NGMC-100	Master Mix (dC) 100µL
NGMG-100	Master Mix (dG) 100µL

DNA Homopolymeric Tailing Kit 100-rxn size:
Tailing Enzyme 50µL supplied in 2x:

NGMA-200	Master Mix (dA) 500µL
NGMT-200	Master Mix (dT) 500µL
NGMC-200	Master Mix (dC) 500µL
NGMG-200	Master Mix (dG) 500µL



NGS Miscellaneous

RNA Poly(A) Tailing Kit

Description

The RNA Poly(A) Tailing Kit provides a highly pure enzyme and reagents to quickly and easily add a poly(A) tail to the 3′ end of any RNA. MCLAB's newly engineered Poly(A) Polymerase uses ATP as a substrate for template-independent addition of adenosine monophosphate to the 3´ hydroxyl termini of RNA molecules. Cloned Poly(A) Polymerase is encoded by an *E. coli* gene and overexpressed in the host strain.

Applications

- Addition of a poly(A) tail to a RNA molecule or a mixture of RNA molecules in order to provide a priming site for synthesis of first-strand cDNA using a primer with poly(dT) on its 3´ end.
- Addition of a poly(A) tail to RNA synthesized in vitro to increase the stability of the RNA and enhance its ability to be translated in vivo after transfection or microinjection into eukaryotic cells.
- Synthesis of polyadenylated RNA for nucleic acid amplification methods or gene expression studies.
- 3´ end labeling of RNA or quantitation of mRNA.

Product Information

RPTK-100	20 reactions, 20 µl/reaction
RPTK-200	100 reactions, 20 µl/reaction

Human Genomic DNA

Description

Standard human genomic DNA that can be used in a variety of applications (i.e. genotyping and tissue culture stain identification).

Applications

DNA typing, DNA analysis, human identity testing, and tissue culture strain identification

Product Information

9947A Genomic DNA	HGD-9947A-100	250ng, 10ng/µl
9948 Genomic DNA	HGD-9948-100	250ng, 10ng/µl
K562 Genomic DNA	HGD-K562-100	250ng, 10ng/µl

Gel/PCR DNA Isolation System

Description

The Gel/PCR DNA Isolation System has been developed to isolate DNA from agarose gel, PCR products, and other enzymatic reactions. With just a few easy binding and washing steps, Gel/PCR DNA Isolation System can recover ready-to-use DNA from various samples in about 10-20 minutes.

Applications

- Gel/PCR DNA Isolation System provides reproducible yields of high-purity DNA suitable for use in most applications, including:
  - » Automated fluorescent and radioactive sequencing & PCR
  - » Restriction digestion & modifying enzymatic reaction
  - » Ligation
  - » Labeling & hybridization

Features

- Efficient extraction of DNA fragments from 100bp to 10kb
- High purity of DNA (A_{260}/A_{280} 1.8-1.9)
- >95% primer and salts removal
- Recover DNA fragments from standard low-melting point agarose gels in TAE or TBE buffer
- Elute DNA with just 15-30µl Elution buffer or ddH_2O
- Recovery rate up to 90%
- Preparation Time: 10-15 minutes
- No sodium Iodide to interfere with subsequent reactions
- No shearing of large DNA fragments

Suitable sample

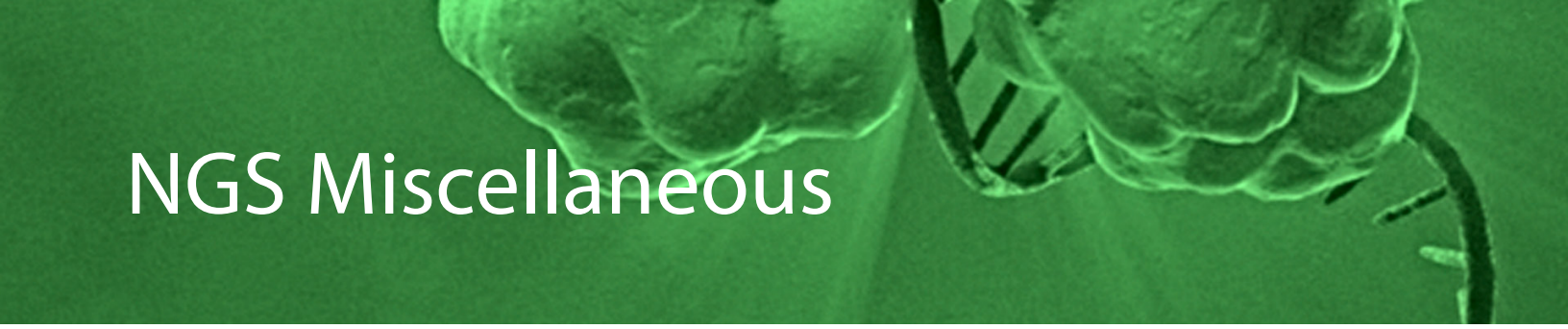
- Agarose gel
- PCR product
- Enzymatic reaction with no sodium iodide to interfere with subsequent reactions

DNA isolation size

- 100bp-10kbp

Product Information

GPAE-100	50 preps
GPAE-200	250 preps



NGS Miscellaneous

Order Information			
Name	**Cat #**	**Description**	**Price**
5′ Adenylation (rApp Modification) service	5APP-100	100 nmole DNA Oligo	$400.00
5′ Adenylation (rApp Modification) service	5APP-200	250 nmole DNA Oligo	$500.00
5′ Adenylation (rApp Modification) service	5APP-300	1 µmole DNA Oligo	$1,000.00
5′ Adenylation (rApp Modification) service	5APP-400	5 µmole DNA Oligo	$4,000.00
5′ Adenylation (rApp Modification) service	5APP-500	10 µmole DNA Oligo	$5,000.00
Fpg, *E. coli*	FPG-100	2,500 U, 10 U/µl	$198.00
Fpg, *E. coli*	FPG-200	10,000 U, 10 U/µl	$594.00
Fpg, *E. coli*	FPG-OEM	Any Size	
RNA Storage Buffer	RSB-100	100 ml	$55.00
RNA Storage Buffer	RSB-200	500 ml	$192.00
RCA DNA Amplification Kit	PPK-100	100 reactions	$60.00
RCA DNA Amplification Kit	PPK-200	500 reactions	$225.00
RCA DNA Amplification Kit	PPK-OEM	Any Size	
RNAse Inhibitor	RNIN-100	20,000 U, 40 U/µl	$125.00
RNAse Inhibitor	RNIN-200	40,000 U, 40 U/µl	$200.00
RNAse Inhibitor	RNIN-OEM	Any Size	
ATP sulfurylase (Yeast)	ATPSY-100	200 µl, 2 mg/ml	$270.00
ATP sulfurylase (Yeast)	ATPSY-200	500 µl, 2 mg/ml	$400.00
ATP sulfurylase (Yeast)	ATPSY-OEM	Any Size	
miRNA cDNA Synthesis and qPCR Kit	MCSQ-100	20 reactions	$165.00
miRNA cDNA Synthesis and qPCR Kit	MCSQ-200	100 reactions	$576.00
QuantumScript™ HD Reverse Transcriptase	SSIII-50	2,000U, 200 U/µl	$69.00
QuantumScript™ HD Reverse Transcriptase	SSIII-100	10,000U, 200 U/µl	$169.00
QuantumScript™ HD Reverse Transcriptase	SSIII-200	50,000U, 200 U/µl	$417.00
QuantumScript™ HD Reverse Transcriptase	SSIII-300	100,000U, 200 U/µl	$626.00
QuantumScript™ Reverse Transcriptase	SSII-25	2,000U, 200 U/µl	$49.00
QuantumScript™ Reverse Transcriptase	SSII-50	10,000U, 200 U/µl	$99.00
QuantumScript™ Reverse Transcriptase	SSII-100	50,000U, 200 U/µl	$162.00
QuantumScript™ Reverse Transcriptase	SSII-200	200,000U, 200 U/µl	$486.00

NGS Miscellaneous

Order Information			
Name	**Cat #**	**Description**	**Price**
SmartRT™ Reverse Transcriptase	SMRT-100	4,000 U (40 reactions), 100 U/µl	$49.00
SmartRT™ Reverse Transcriptase	SMRT-200	10,000 U (100 reactions), 100 U/µl	$89.00
SmartRT™ Reverse Transcriptase	SMRT-300	40,000 U (400 reactions), 100 U/µl	$299.00
DNA Storage Buffer	DSB-100	50 ml	$100.00
DNA Storage Buffer	DSB-200	100 ml	$185.00
SuperMix (dA)	NGMA-100	100 µl, 20 reactions	$80.00
SuperMix (dA)	NGMA-200	500 µl, 1,000 reactions	$300.00
SuperMix (dT)	NGMT-100	100 µl, 20 reactions	$80.00
SuperMix (dT)	NGMT-200	500 µl, 1,000 reactions	$300.00
SuperMix (dC)	NGMC-100	100 µl, 20 reactions	$80.00
SuperMix (dC)	NGMC-200	500 µl, 1,000 reactions	$300.00
SuperMix (dG)	NGMG-100	100 µl, 20 reactions	$80.00
SuperMix (dG)	NGMG-200	500 µl, 1,000 reactions	$300.00
RNA Poly(A) Tailing Kit	RPTK-100	20 reactions, 20 µl/reaction	$112.00
RNA Poly(A) Tailing Kit	RPTK-200	100 reactions, 20 µl/reaction	$356.00
9947A Genomic DNA	HGD-9947A-100	250ng, 10ng/µl	$72.00
9948 Genomic DNA	HGD-9948-100	250ng, 10ng/µl	$72.00
K562 Genomic DNA	HGD-K562-100	250ng, 10ng/µl	$72.00
Gel/PCR DNA Isolation System	GPAE-100	50 preps, 20 µl/reaction	$79.00
Gel/PCR DNA Isolation System	GPAE-200	250 preps, 20 µl/reaction	$326.00