

NEXT GENERATION SEQUENCING

DNA Library Prep • RNA-Seq • ChIP-Seq • Size Selection • Shearing Technologies • NGS Services





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DNA Library Preparation

NEBNext® Ultra™ II DNA Library Prep Kit



The Ultra II DNA Library Prep Kit for Illumina meets the challenge of constructing high quality libraries from ever-decreasing input quantities. The reagents for each step in the library preparation workflow have been reformulated to enable high yield preparation of high quality libraries from 500 pg to 1 µg of input DNA. The NEBNext reagents use a fast, streamlined, automatable workflow and enables use of fewer PCR cycles while also improving GC coverage. The kit is also compatible with PCR-free workflows and is effective with challenging samples such as FFPE DNA. Also available with optional SPRIselect® beads for clean-up and size-selection steps.

- Get more of what you need, with the highest library yields
- Generate high quality libraries even when you have only limited amounts of DNA, with inputs as low as 500 pg
- Prepare libraries from ALL of your samples, including GC-rich targets and FFPE DNA samples
- Improve yield and quality for target enrichment applications
- Save time with streamlined workflows, reduced hands-on time and automation compatibility, and enjoy the flexibility of kit or module formats

Product no	Product description	Size
E7645S	NEBNext Ultra II DNA Library Prep Kit	24 reactions
E7645L	NEBNext Ultra II DNA Library Prep Kit	96 reactions
E7103S	NEBNext Ultra II DNA Library Prep Kit with Purification Beads	24 reactions
E7103L	NEBNext Ultra II DNA Library Prep Kit with Purification Beads	96 reactions

NEBNext® Ultra™ II FS DNA Library Prep Kit



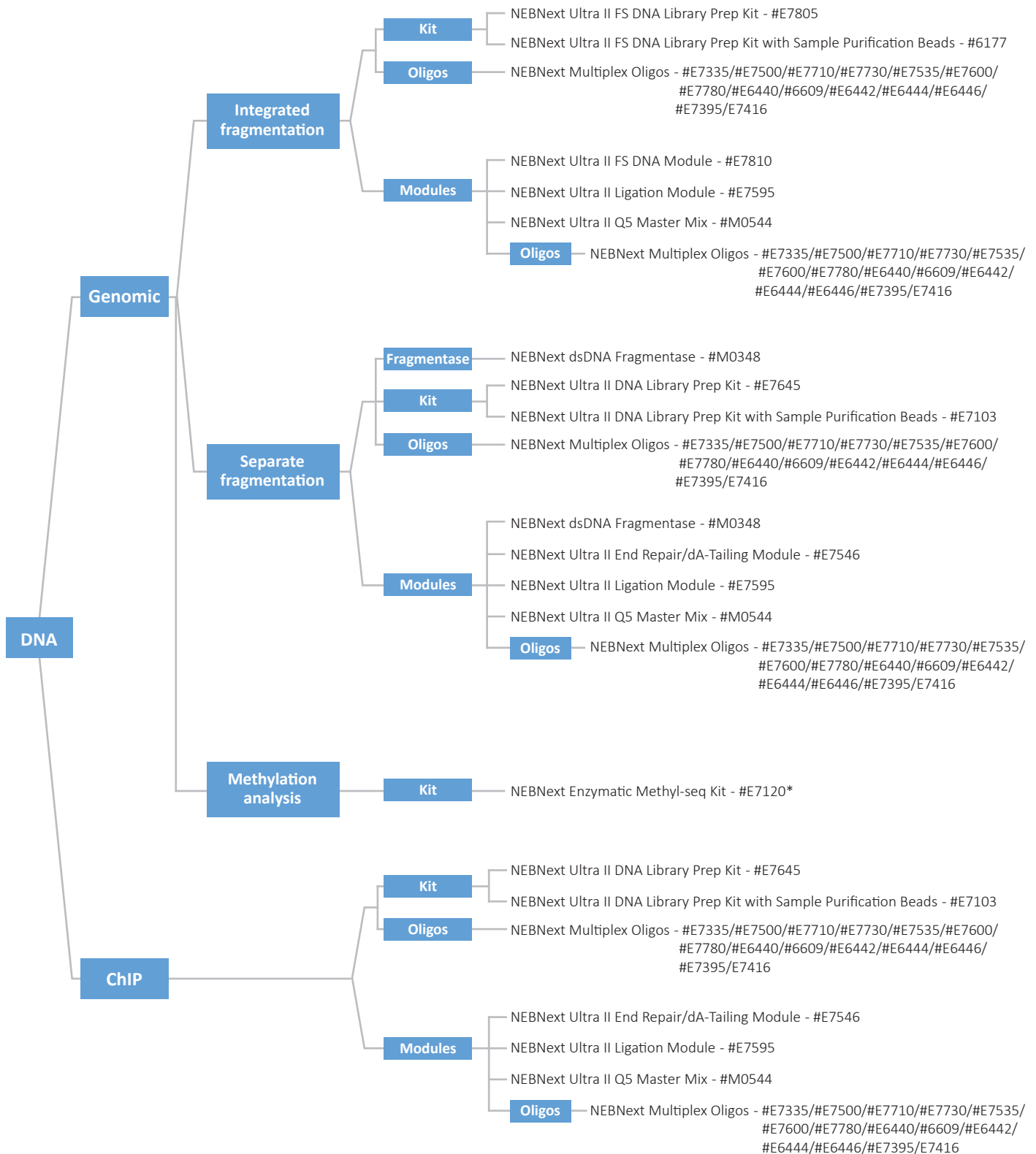
With this kit, New England BioLabs has combined their NEBNext Ultra II DNA workflow with a fragmentation system and made the NEBNext Ultra II FS DNA Library Prep Kit. The Ultra II FS kit includes a new DNA fragmentation reagent, which is also combined with end repair and dA-tailing reagents, enabling these steps to be performed in the same tube, with no clean-ups or sample loss. The same fragmentation protocol is used for any input amount (100 pg - 500 ng) or GC content. Prepare high quality libraries from a wide range of input amounts: 100 pg - 500 ng. Save time with a streamlined workflow: ~ 2.5 hours, with < 15 minutes hands-on time.

Product no	Product description	Size
E6177S	NEBNext Ultra II FS DNA Library Prep Kit with Purification Beads	24 reactions
E6177L	NEBNext Ultra II FS DNA Library Prep Kit with Purification Beads	96 reactions
E7805S	NEBNext Ultra II FS DNA Library Prep Kit	24 reactions
E7805L	NEBNext Ultra II FS DNA Library Prep Kit	96 reactions

NEBNext® DNA Product Selection Chart

Use the following chart to determine the best NEBNext products for your Illumina DNA library prep needs. For the most up-to-date product information, visit NEBNext.com

For help selecting products, try the online product selection tool at NEBNextSelector.neb.com



*Module and EM-seq Oligos also available.

Reagents for original Ultra workflow and standard workflow are also available.

NEBNext® Ultra II DNA Reagents



NEBNext Ultra II Kits are available with or without integrated enzymatic DNA fragmentation, and with or without SPRIselect Beads for sample purification/clean up. Note that adaptors and primers are supplied separately. Separate modules for the different library preparation steps are available.

Input Ultra II DNA Workflow: 500 pg- 1 ug Ultra II FS DNA Workflow: 100 pg- 0.5 ug

Fragmentation	End Repair/ dA-Tailing	Adapter Ligation	Clean Up/ Size Selection	PCR Enrichment	Clean Up	Total Workflow
NEBNext Ultra II DNA Library Prep Kit for Illumina (#E7645)						
	<ul style="list-style-type: none"> • Ultra II End Prep Enzyme Mix • Ultra II End Prep Reaction Buffer (10X) 	<ul style="list-style-type: none"> • Ultra II Ligation Master Mix • Ligation Enhancer 		<ul style="list-style-type: none"> • NEBNext Ultra II Q5 Master Mix 		<p>Hands-On (not including fragmentation) 12-13 min</p> <p>Total 1.7-3.2 hrs</p>
NEBNext Ultra II DNA Library Prep Kit with Sample Purification Beads (#E7103)						
	<ul style="list-style-type: none"> • Ultra II End Prep Enzyme Mix • Ultra II End Prep Reaction Buffer (10X) 	<ul style="list-style-type: none"> • Ultra II Ligation Master Mix • Ligation Enhancer 	<ul style="list-style-type: none"> • NEBNext Sample Purification Beads (SPRIselect) 	<ul style="list-style-type: none"> • NEBNext Ultra II Q5 Master Mix 	<ul style="list-style-type: none"> • NEBNext Sample Purification Beads (SPRIselect) 	<p>Hands-On (including fragmentation) 12-13 min</p> <p>Total 1.4-3.2 hrs</p>
NEBNext Ultra II FS DNA Library Prep Kit for Illumina (#E7805)						
	<ul style="list-style-type: none"> • Ultra II FS Enzyme Mix • Ultra II FS Reaction Buffer 	<ul style="list-style-type: none"> • Ultra II Ligation Master Mix • Ligation Enhancer 		<ul style="list-style-type: none"> • NEBNext Ultra II Q5 Master Mix 		
NEBNext Ultra II FS DNA Library Prep Kit with Sample Purification Beads (#E6177)						
	<ul style="list-style-type: none"> • Ultra II FS Enzyme Mix • Ultra II FS Reaction Buffer 	<ul style="list-style-type: none"> • Ultra II Ligation Master Mix • Ligation Enhancer 	<ul style="list-style-type: none"> • NEBNext Sample Purification Beads (SPRIselect) 	<ul style="list-style-type: none"> • NEBNext Ultra II Q5 Master Mix 	<ul style="list-style-type: none"> • NEBNext Sample Purification Beads (SPRIselect) 	
NEBNext Ultra II FS DNA Module (#E7810)						
	<ul style="list-style-type: none"> • Ultra II FS Enzyme Mix • Ultra II FS Reaction Buffer 					
NEBNext dsDNA Fragmentase® (#M0348)	NEBNext Ultra II End Repair/dA-Tailing Module (#E7546)	NEBNext Ultra II Ligation Module (#E7595)		NEBNext Ultra II Q5 Master Mix (#M0544)		
<ul style="list-style-type: none"> • NEBNext dsDNA Fragmentase • Reaction Buffer v2 • Magnesium Chloride 	<ul style="list-style-type: none"> • Ultra II End Prep Enzyme Mix • Ultra II End Prep Reaction Buffer (10X) 	<ul style="list-style-type: none"> • Ultra II Ligation Master Mix • Ligation Enhancer 		<ul style="list-style-type: none"> • NEBNext Ultra II Q5 Master Mix 		

NEBNext® Companion Module for Oxford Nanopore Technologies® Ligation Sequencing



The NEBNext DNA repair, end repair and ligation reagents recommended in Ligation library preparation are now available in the same product, at volumes designed for use alongside Oxford Nanopore Technologies Ligation Sequencing Kit (#SQK-LSK109).

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

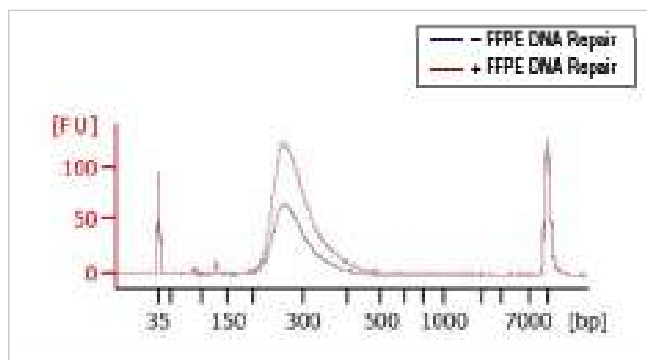
Product no	Product description	Size
E7180S	NEBNext Companion Module for Oxford Nanopore Technologies Ligation Sequencing	24 reactions

NEBNext® FFPE DNA Repair Mix



Archiving of clinical materials as Formalin-Fixed, Paraffin-Embedded (FFPE) samples is a common practice. However, the methods used for fixation and storage significantly damage and compromise the quality of DNA from these samples. As a result, it can be challenging to obtain useful information, including high-quality sequence data, especially when sample amounts are limited.

The NEBNext FFPE DNA Repair Mix is a cocktail of enzymes formulated to repair DNA, and specifically optimized and validated for repair of FFPE DNA samples.



Effect of FFPE DNA Repair Mix on library yields. An example of Agilent Bioanalyzer traces of libraries prepared from stomach tumor FFPE DNA that was treated with the FFPE DNA Repair Mix, or was untreated, before library construction. Yield improvements of 101 % to 458 % have been observed.

FFPE damage type	Repaired by the FFPE DNA Enzyme Repair Mix?
Deamination of cytosine to uracil	Yes
Nicks and gaps	Yes
Oxidized bases	Yes
Blocced 3' ends	Yes
DNA fragmentation	No
DNA-protein crosslinks	No

Table 1: Types of FFPE DNA damage and ability to be repaired by the NEBNext FFPE DNA Repair Mix.

Product no	Product description	Size
M6630S	NEBNext FFPE DNA Repair Mix	24 reactions
M6630L	NEBNext FFPE DNA Repair Mix	96 reactions

PCR-free Library Prep Kit for Illumina®



Don't be biased! The NEBNext Ultra II DNA PCR-free Library Prep Kit contains the enzymes and buffers required to convert a broad range of sheared DNA input amounts into libraries for next-generation sequencing on the Illumina platform, all without an amplification step. The fast, user-friendly workflow requires minimal hands-on time, resulting in excellent library yields and GC coverage without requiring PCR.

- Save time with an optimized PCR-free workflow, reduced hands-on time and automation compatibility
- Generate high quality libraries without an amplification step using inputs from 250ng to 1000ng for the PCR-free Ultra II kit, and 50ng-500ng for the PCR-free Ultra II FS-kit
- Benefit from improved library uniformity
- Use with the NEBNext Multiplex Oligos for Illumina (Unique Dual Index UMI Adaptors DNA Set 1, E7395) or other Illumina-compatible index adaptors with a 3' single T overhang
- Prepare libraries with a broad range of sample types
- Also available as a kit with purification beads

Note: If your input DNA is not sheared, we recommend the NEBNext Ultra II FS DNA PCR-free Library Prep Kit for Illumina, which fragments, end repairs, and dA-tails DNA, all in a single tube with no cleanups or transfers.

Product no	Product description	Size
E7410S	NEBNext® Ultra™ II DNA PCR-free Library Prep Kit for Illumina®	24 reactions
E7410L	NEBNext® Ultra™ II DNA PCR-free Library Prep Kit for Illumina®	96 reactions
E7430S	NEBNext® Ultra™ II FS DNA PCR-free Library Prep Kit for Illumina®	24 reactions
E7430L	NEBNext® Ultra™ II FS DNA PCR-free Library Prep Kit for Illumina®	96 reactions

NEBNext® Microbiome DNA Enrichment Kit



The NEBNext Microbiome DNA Enrichment Kit facilitates enrichment of microbial DNA from samples containing methylated host DNA (including human), by selective binding and removal of the CpG-methylated host DNA. Importantly, microbial diversity remains intact after enrichment.

- Effective enrichment of microbial genomic DNA from samples contaminating host DNA
- Fast, simple protocol
- Enables microbiome whole genome sequencing, even for samples with high levels of host DNA
- Compatible with downstream applications including next generation sequencing on all platforms, qPCR and end point PCR
- Suitable for a wide range of sample types
- No requirement for live cells
- **Optional protocol to retain separated host DNA**
- Also effective for separation of organelle DNA (e.g. mitochondria, chloroplast) from eukaryote nuclear DNA

Product no	Product description	Size
E2612S	NEBNext Microbiome DNA Enrichment Kit	6 reactions
E2612L	NEBNext Microbiome DNA Enrichment Kit	24 reactions

NEBNext® Magnetic Separation Rack



- The NEBNext® Magnetic Separation Rack is designed for rapid and effective small-scale separations of magnetic particles, in 0.2 ml tubes
- Anodized aluminum rack with Neodymium Iron Boron (NdFeB) rare earth magnets, the most powerful commercially available
- Capacity: 8- and 12-strip 0.2 ml PCR tubes or individual 0.2 ml PCR tubes



Product no	Product description	Size
S1515S	NEBNext® Magnetic Separation Rack	24 tubes

NEBNext® Library Quant Kit



Accurate quantitation of next generation sequencing (NGS) libraries is essential for maximizing data output and quality from each sequencing run. For Illumina sequencing specifically, accurate quantitation of libraries is critical to achieve optimal cluster densities, a requirement for optimal sequence output. qPCR is considered to be the most accurate and effective method of library quantitation, providing considerably higher consistency and reproducibility of quantitation. Further, amplification-based methods quantitate only those molecules that contain both adaptor sequences, thereby providing a more accurate estimate of the concentration of the library molecules that can be sequenced.

- Be confident in your quant values, with more accurate and reproducible results than other methods and kits
- Quantitate more libraries per kit, as only 4 standards are required
- Simplify your reaction setup with fewer pipetting steps and a single extension time for all libraries
- Use with all your libraries, regardless of insert size, GC content, and preparation method

	Reagent Preparation	Library Dilution	Set Up	qPCR	Data Analysis	Total Workflow
Hands-On	5 min.	10 min.	25 min.	1 min.	10 min.	51 min.
Total	5 min.	10 min.	25 min.	60 min.	10 min.	1 hr. 45 min.

Product no	Product description	Size
E7630S	NEBNext Library Quant Kit for Illumina	100 reactions
E7630L	NEBNext Library Quant Kit for Illumina	500 reactions

Methylation seq library preparation

Enzyme-based methylome analysis



NEBNext Enzymatic Methyl-seq (EM-seq™) is a new method for identification of 5-mC and 5-hmC. While bisulfite sequencing has been the gold standard for methylome analysis, this conversion treatment damages DNA resulting in fragmentation, loss and bias. In contrast, the highly effective enzyme-based conversion in the NEBNext Enzymatic Methyl-seq Kit minimizes damage to DNA and, with the supplied NEBNext Ultra II library preparation workflow reagents, produces high quality libraries that enable superior detection of 5-mC and 5-hmC from fewer sequencing reads.

- Superior sensitivity of detection of 5-mC and 5-hmC
- Greater mapping efficiency
- More uniform GC coverage
- Detection of more CpGs with fewer sequence reads
- Uniform dinucleotide distribution
- High-efficiency library preparation, with larger library insert sizes
- Conversion module also available separately

Product no	Product description	Size
E7120S	NEBNext Enzymatic Methyl-seq Kit	24 reactions
E7120L	NEBNext Enzymatic Methyl-seq Kit	96 reactions
E7125S	NEBNext Enzymatic Methyl-seq Conversion Module	24 reactions
E7125L	NEBNext Enzymatic Methyl-seq Conversion Module	96 reactions

Bisulfite sequencing kits



Diagenode's product range provides products that offer bisulfite conversion with single nucleotide resolution, gene-specific and genome-wide analyses with NGS compatibility. Bisulfite modification of DNA is known as the gold standard method for DNA methylation. Treatment of DNA with bisulfite converts cytosine residues to uracil but leaves 5-methylcytosine residues unaffected. Methylated cytosines are protected from this conversion allowing to determine DNA methylation at the single nucleotide level.

Product no	Product description	Size
C02030030	Premium Bisulfite kit	50 reactions
C02030032	Premium Reduced Representation Bisulfite Sequencing (RRBS) Kit	24 reactions
C02030033	Premium Reduced Representation Bisulfite Sequencing (RRBS) Kit	96 reactions
C02030034	Premium Whole Genome Bisulfite Sequencing (WGBS) kit	8 reactions
C02040019	DNA methylation control package V2	48 reactions

Methylated DNA immunoprecipitation

Methylated DNA Immunoprecipitation is based on the affinity purification of methylated and hydroxymethylated DNA using, respectively, an antibody directed against 5-methylcytosine (5-mC) in the case of MeDIP or 5-hydroxymethylcytosine (5-hmC) in the case of hMeDIP. Diagenode offers two kits; MagMeDIP-seq from gDNA extraction to library preparation - prepare ready-to-sequence libraries of immunoprecipitated methylated DNA, and, hMeDIP kit to precipitate hydroxymethylated DNA with a specific antibody from fragmented genomic DNA samples for use in genome-wide methylation analysis.

Product no	Product description	Size
C02010040	MagMeDIP-seq Package	10 reactions
C02040019	DNA methylation control package V2	48 reactions
C02010031	hMeDIP kit (monoclonal mouse antibody)	16 reactions
C02040018	DNA hydroxymethylation control package	48 reactions

Methylbinding domain protein

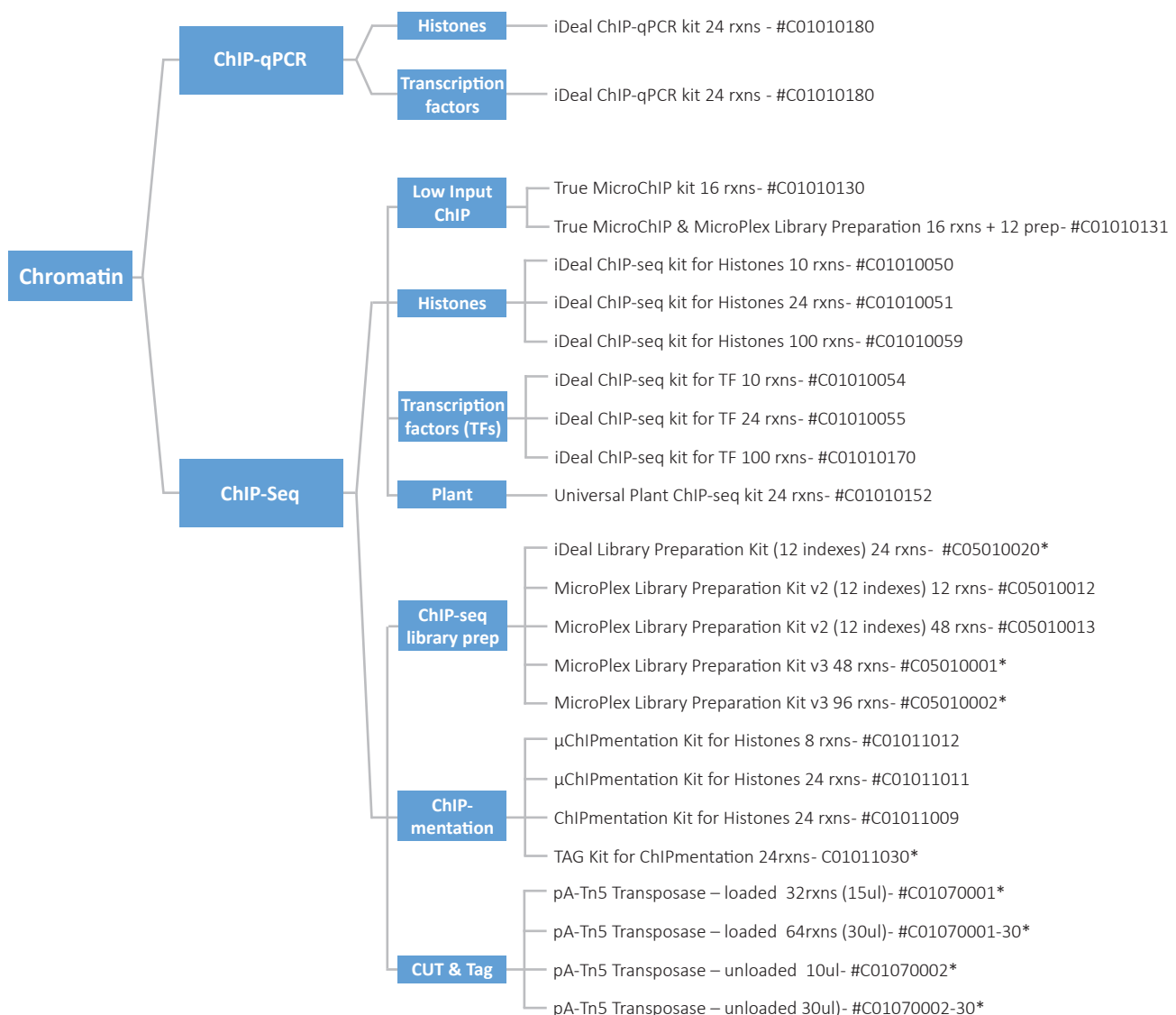
The MethylCap kit allows to specifically capture DNA fragments containing methylated CpGs. The assay is based on the affinity purification of methylated DNA using methyl-CpG-binding domain (MBD) of human MeCP2 protein. Libraries of captured methylated DNA can be prepared for next generation sequencing (NGS) by combining MBD technology with the MicroPlex Library Preparation Kit v3 (more information on page 13).

Product no	Product description	Size
C02020010	MethylCap kit	48 reactions

ChIP-seq Library Preparation

ChIP-qPCR and ChIP-Seq Product Selection Chart

Use the chart below to determine your needs for high-performance chromatin immunoprecipitation solutions to analyze chromatin and the role of the transcription machinery. Choose from ChIP-qPCR and ChIP-seq kits for histone and transcription factors, for low inputs, plants, and animals. Find optimal solutions for library preparation following ChIP such as tagmentation-based ChIPmentation and pA-Tn5.



*Different formats of compatible primer indexes (dual indexes and unique dual indexes) are available separately.

NEBNext® Ultra™ II DNA Library Prep Kit

The Ultra II DNA Library Prep Kit for Illumina meets the challenge of constructing high quality libraries from ever-decreasing input quantities. The reagents for each step in the library preparation workflow have been reformulated to enable high yield preparation of high quality libraries from 500 pg to 1 µg of input DNA. The NEBNext reagents use a fast, streamlined, automatable workflow and enable use of fewer PCR cycles while also improving GC coverage. The kit is also compatible with PCR-free workflows and is effective with challenging samples such as FFPE DNA. Also available with optional SPRIselect® beads for clean-up and size-selection steps.

- Get more of what you need, with the highest library yields
- Use to generate high quality libraries even when you have only limited amounts of DNA, with inputs as low as 500 pg
- Prepare libraries from ALL of your samples, including GC-rich targets and FFPE DNA samples
- Improve yields and quality for target enrichment applications
- Save time with streamlined workflows, reduced hands-on time and automation compatibility, and enjoy the flexibility of kit or module formats

Product no	Product description	Size
E7645S	NEBNext Ultra II DNA Library Prep Kit	24 reactions
E7645L	NEBNext Ultra II DNA Library Prep Kit	96 reactions
E7103S	NEBNext Ultra II DNA Library Prep Kit with Purification Beads	24 reactions
E7103L	NEBNext Ultra II DNA Library Prep Kit with Purification Beads	96 reactions

ChIP-kit for low input samples



The True MicroChIP kit allows for chromatin preparation for your ChIP-qPCR on histone targets on as few as 10000 cells. The complete kit in combination with the MicroPlex Library Preparation™ contains everything you need for your start-to-finish ChIP-seq experiment including all validated buffers and reagents for chromatin shearing, immunoprecipitation, and elution for exceptional ChIP-Seq results. In addition, positive control antibodies and negative control PCR primers are included for your convenience and assurance of result sensitivity and specificity.

Product no	Product description	Size
C01010130	True MicroChIP kit	16 reactions
C01010131	True MicroChIP & MicroPlex Library Preparation	16 ChIP and 12 library prep reactions

ChIP-qPCR kit for either histones or transcription factors



Diagenode's iDeal ChIP-qPCR kit is a highly optimized and validated solution for ChIP-qPCR assays for either histones or transcription factors. The complete kit contains everything you need for start-to-finish ChIP including all validated buffers and reagents for chromatin shearing, immunoprecipitation, and DNA isolation for exceptional ChIP-qPCR results. The iDeal ChIP-qPCR kit uses a unique and fast method for DNA isolation. The rapid protocol allows to receive the results within 20 hours with 4 hours hands-on time.

Product no	Product description	Size
C01010180	iDeal ChIP-qPCR kit	24 reactions



ChIP-seq kits for either histones or transcription factors



Do not risk wasting your precious sequencing samples. Diagenode's validated iDeal ChIP-seq kit for Histones, transcription factors and other non-histone proteins has everything you need for a successful start-to-finish ChIP prior to Next Generation Sequencing. The complete kit contains all buffers and reagents for cell lysis, chromatin shearing, immunoprecipitation, and DNA purification. In addition, unlike competing solutions, the kit contains positive and negative control antibodies as well as positive and negative control PCR primer pairs for your convenience and a guarantee of optimal results.

The iDeal ChIP-seq kit for Histones is perfect for cells (100000 cells to 1000000 cells per IP) and has been validated for tissues (1.5 mg to 5 mg of tissue per IP).

The iDeal ChIP-seq kit for Transcription Factors is compatible with 4000000 cells and tissues up to 30 mg.

Product no	Product description	Size
C01010051	iDeal ChIP-seq kit for Histones	24 reactions
C01010059	iDeal ChIP-seq kit for Histones	100 reactions
C01010050	iDeal ChIP-seq kit for Histones	10 reactions
C01010055	iDeal ChIP-seq Kit for Transcription Factors	24 reactions
C01010170	iDeal ChIP-seq Kit for Transcription Factors	100 reactions
C01010054	iDeal ChIP-seq Kit for Transcription Factors	10 reactions

ChIP-seq kit for plant



The Universal Plant ChIP-seq kit offers the convenience of extracting plant chromatin from a wide variety of plants including Arabidopsis, maize, rice, tomato, and poplar. This complete kit has been specifically optimized for plant chromatin extraction and includes reagents for chromatin preparation, immunoprecipitation, plant-specific control primer pairs, control antibody, and DNA purification.

Product no	Product description	Size
C01010152	Universal Plant ChIP-seq kit	24 reactions

NGS library preparation kits for ChIP-seq



The iDeal Library Preparation Kit converts DNA into indexed libraries for next generation sequencing, with input amounts down to 5 ng. The kit offers a simple and fast workflow, high yields, and ready-to-sequence DNA on the Illumina platform. The kit is highly recommended for high input ChIP-seq library preparation, MeDIP-seq library preparation, and genomic DNA sequencing.

For library preparation of DNA inputs down to 50 pg, the MicroPlex Library Preparation Kit is the optimal choice. The MicroPlex v2 kit contains all necessary reagents including single indexes for multiplexing up to 12 samples using single barcoding. For higher multiplexing (using dual indexes) use MicroPlex Library Preparation Kits v3. For flexibility different formats of compatible primer indexes (dual indexes and unique dual indexes) are available separately.

Product no	Product description	Size
C05010020	iDeal Library Preparation Kit (Set 1- 12 indexes)	24 reactions*
C05010012	MicroPlex Library Preparation Kit v2 (12 indexes)	12 reactions
C05010013	MicroPlex Library Preparation Kit v2 (12 indexes)	48 reactions
C05010001	MicroPlex Library Preparation Kit v3	48 reactions *
C05010002	MicroPlex Library Preparation Kit v3	96 reactions *

*Compatible primer indexes (dual indexes and unique dual indexes) can be found on page 26.

ChIPmentation kits for ChIP-seq library preparation

Diagenode's ChIPmentation technology is based on tagmentation. Using transposase and sequencing-compatible adaptors, the library preparation is integrated during ChIP itself. Unlike standard library preparation techniques that require multi-step ligation, ChIPmentation incorporates an easier and shorter protocol.

Different protocols have been optimized bringing the solution for different needs:

Low cell number - The kit μ ChIPmentation for Histones enables to use as little as 10000 cells per reaction.

Standard cell number - ChIPmentation kit for Histones is the choice of option.

Module for library prep using tagmentation - Tag Kit for ChIPmentation can be used with any ChIP protocol.

Product no	Product description	Size
C01011011	μ ChIPmentation Kit for Histones	24 reactions
C01011012	μ ChIPmentation Kit for Histones	8 reactions
C01011009	ChIPmentation Kit for Histones	24 reactions
C01011030	TAG Kit for ChIPmentation	24 reactions*

* Compatible primer indexes (single indexes and unique dual indexes) can be found on page 26.

CUT&Tag (Cleave Under Targets and Tagmentation) Assay

CUT&Tag is a technique for efficient chromatin profiling. Chromatin-proteins are first bound by a specific antibody. This complex is then fused to a protein A-Tn5 transposase, loaded with sequencing adapters. Upon activation of the transposase, sequencing libraries can be easily and efficiently generated. Diagenode offers the pA-Tn5 Transposase fusion protein for efficient CUT&Tag assays.

Product no	Product description	Size
C01070001	pA-Tn5 Transposase - loaded	15 μ l (32 rxns)
C01070001-30	pA-Tn5 Transposase - loaded	30 μ l (64 rxns)
C01070002	pA-Tn5 Transposase - unloaded	10 μ l
C01070002-30	pA-Tn5 Transposase - unloaded	30 μ l

CUT&RUN (Cleavage Under Target & Release Using Nuclease) Assay Kit

CUT&RUN is an in vivo method that uses a target-specific primary antibody and Protein A-Protein G-Micrococcal Nuclease (pAG-MNase) to isolate specific protein-DNA complexes. This assay kit is most suitable for protein targets such as histones, histone modification, transcription factors, and cofactors. Unlike the ChIP assay, CUT&RUN is free from formaldehyde cross-linking, chromatin fragmentation, and immunoprecipitation, making it a much faster and more efficient method for enriching protein-DNA interactions and identifying target genes. CUT&RUN can be performed in less than one day, from live cells to purified DNA, and has been shown to work with as few as 500-1000 cells per assay. Purified target DNA can be used for downstream processes such as next generation sequencing or qPCR.

Product no	Product description
86652	CUT&RUN Assay Kit
40366	CUT&RUN pAG-MNase and Spike-In DNA
14209	DNA Purification Buffers and Spin Columns (ChIP, CUT&RUN)

SimpleChIP® ChIP-seq DNA Library Prep Kit for Illumina®



The SimpleChIP ChIP-seq DNA Library Prep Kit for Illumina contains all of the enzymes and buffers necessary to generate high quality DNA sequencing libraries from ChIP DNA for next generation sequencing on the Illumina platform. The fast, user-friendly workflow minimizes hands-on time needed for generation and purification of DNA libraries. This product must be used in combination with SimpleChIP ChIP-seq Multiplex Oligos for Illumina (Single Index Primers) (#29580) or SimpleChIP ChIP-seq Multiplex Oligos for Illumina (Dual Index Primers) (#47538).

This product provides sufficient amounts of reagents for 24 reactions and is compatible with both enzymatic- and sonication-fragmented, ChIP-enriched DNA. This product is compatible with SimpleChIP Enzymatic Chromatin IP Kit (Magnetic Beads) (#9003), SimpleChIP Plus Enzymatic Chromatin IP Kit (Magnetic Beads) (#9005), and SimpleChIP Plus Sonication Chromatin IP Kit (#56383).

Product no	Product description
56795S	SimpleChIP ChIP-seq DNA Library Prep Kit for Illumina
9003S	SimpleChIP Enzymatic Chromatin IP Kit (Magnetic Beads)
9005S	SimpleChIP Plus Enzymatic Chromatin IP Kit (Magnetic Beads)
56383S	SimpleChIP Plus Sonication Chromatin IP Kit
29580S	SimpleChIP ChIP-seq Multiplex Oligos for Illumina (Single Index Primers)
47538S	SimpleChIP ChIP-seq Multiplex Oligos for Illumina (Dual Index Primers)

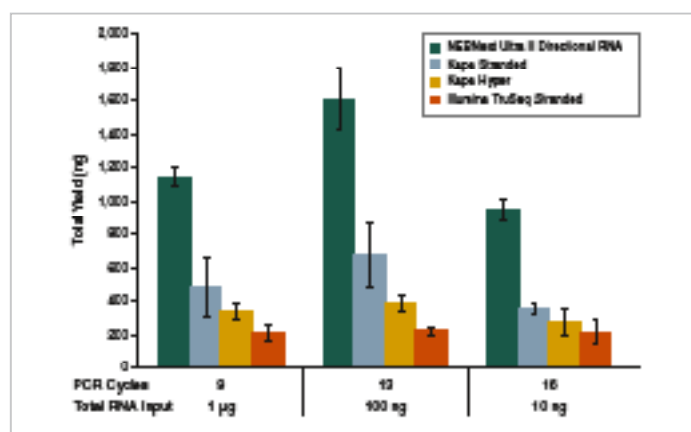
RNA Library Preparation

NEBNext Ultra II RNA Library Prep Kit



Do you need increased sensitivity and specificity from your RNA-seq experiments? Do you have ever-decreasing amounts of input RNA? To address these challenges, RNA library prep kits have been reformulated at each step, resulting in several fold higher yields of high-quality libraries and enabling use of lower input amounts and fewer PCR cycles. The kits have streamlined, automatable workflows and are available for directional (strand-specific, using the “dUTP method”) and non-directional library prep, with the option of SPRISelect beads for size-selection and clean-up steps.

- Get more of what you need, with the highest library yields
- Generate high quality libraries with limited amount of RNA:
 - 10 ng - 1 ug total RNA (polyA mRNA workflow)
 - 5 ng - 1 ug (rRNA depletion workflow)
- Minimize bias, with fewer PCR cycles required
- Robust performance, even with low quality RNA



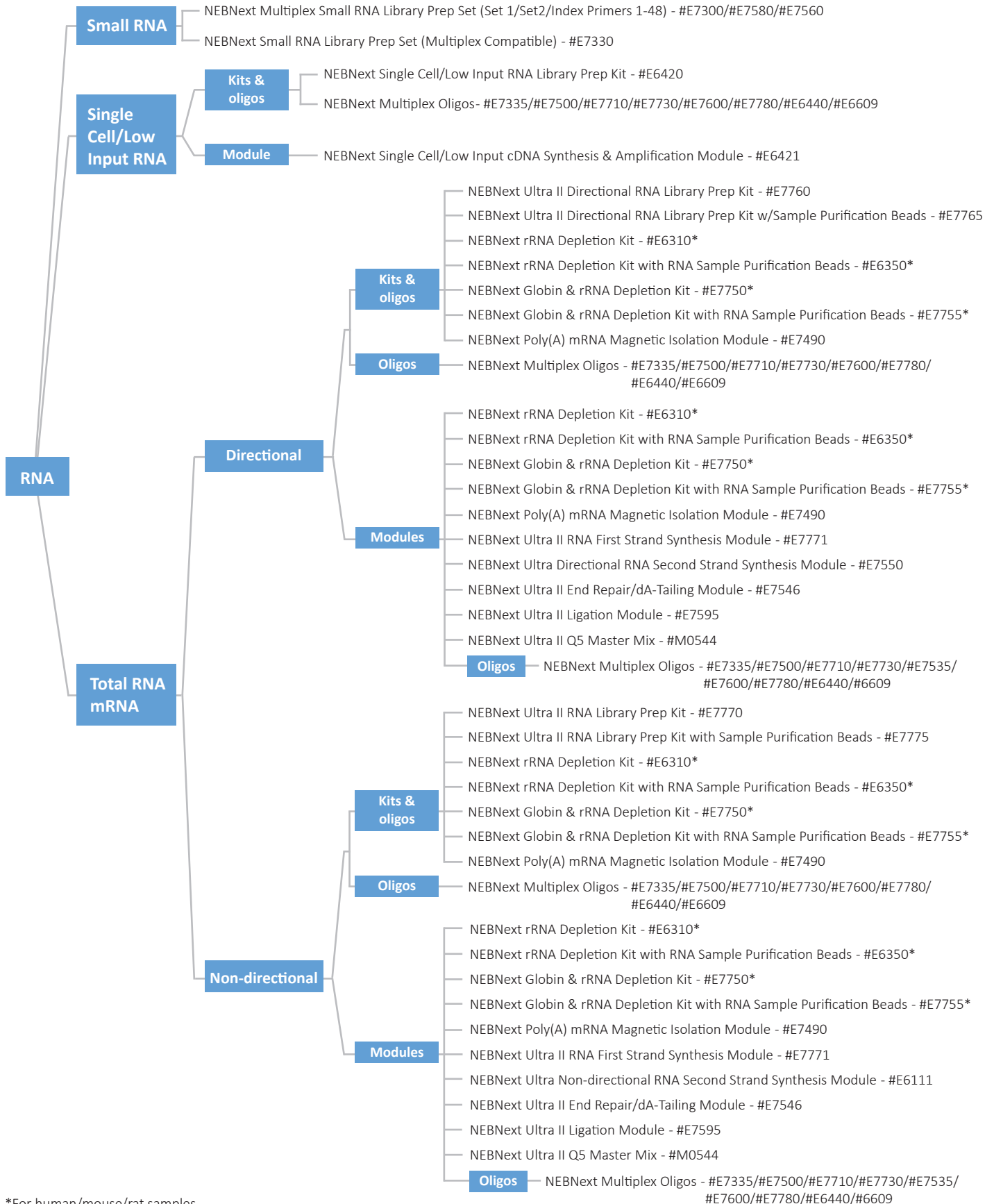
NEBNext Ultra II Directional RNA produces the highest yields, from a range of input amounts. Poly(A)-containing mRNA was isolated from 10 ng, 100 ng and 1 ug of Universal Human Reference RNA (Agilent #740000) and libraries were made using the NEBNext Ultra II Directional RNA kit, Kapa Stranded mRNA-Seq Kit, Kapa mRNA HyperPrep kit and Illumina TruSeq Stranded mRNA Kit. The input RNA amount and number of PCR cycles are indicated. Library yields from an average of three replicates are shown. Error bars indicate standard deviation. Library yields were assessed using the Agilent® Bioanalyzer®.

Product no	Product description	Size
E7760S	NEBNext Ultra II Directional RNA Library Prep Kit	24 reactions
E7760L	NEBNext Ultra II Directional RNA Library Prep Kit	96 reactions
E7765S	NEBNext Ultra II Directional RNA Library Prep Kit with Beads	24 reactions
E7765L	NEBNext Ultra II Directional RNA Library Prep Kit with Beads	96 reactions
E7770S	NEBNext Ultra II RNA Library Prep Kit	24 reactions
E7770L	NEBNext Ultra II RNA Library Prep Kit	96 reactions
E7775S	NEBNext Ultra II RNA Library Prep Kit with Purification Beads	24 reactions
E7775L	NEBNext Ultra II RNA Library Prep Kit with Purification Beads	96 reactions

NEBNext® RNA Product Selection Chart

Use the following chart to determine the best NEBNext products for your Illumina RNA sequencing needs. For the most up-to-date product information, visit NEBNext.com

For help selecting products, try the online product selection tool at NEBNextSelector.neb.com





*For human/mouse/rat samples.

Reagents for original Ultra workflow and standard workflow are also available.

NEBNext® Ultra II RNA Reagents

NEBNext Ultra II RNA kits and reagents are available for directional (strand-specific) and non-directional library preparation, and for bulk RNA and single cell samples. These products utilize streamlined workflows and have been designed for performance with input amount as low as 5 ng. Note that reagents for rRNA depletion and poly(A) mRNA enrichment are supplied separately, as are adaptors and primers.

Input Poly(A) mRNA Workflow: 10 ng- 1 ug rRNA Depletion Workflow: 5 ng - 1 ug

	mRNA Isolation/ rRNA Depletion	mRNA Fragmentation	First Strand cDNA Synthesis	Second Strand cDNA Synthesis	End Repair/ dA Taining	Adapter Ligation	Size Selection	PCR Enrichment	Clean Up	Total Workflow
Ultra II Directional Kits	NEBNext Ultra II Directional RNA Library Prep Kit for Illumina (#E7760)									<div></div> <div>Hands-On 27 min</div> <div>Total 5.5-5.7 hrs* 6.6-6.8 hrs**</div>
	NEBNext Ultra II Directional RNA Library Prep with Sample Purification Beads (#7765)									
	<ul style="list-style-type: none">• First Strand Synthesis Reaction Buffer• First Strand Synthesis Enzyme Mix• Random Primers• Strand Specificity Reagent		<ul style="list-style-type: none">• Sec. strand synth reaction buffer w/dUTP Mix• Second Strand Synthesis Enz.Mix• Nuclease-free Water	<ul style="list-style-type: none">• End Prep Enzyme Mix• End Repair Reaction Buffer	<ul style="list-style-type: none">• Ultra II Ligation Master Mix• Ligation Enhancer• Adaptor Dil. Buffer	<ul style="list-style-type: none">• NEBNext Sample Purification Beads (SPRIselect) - #E7765 only	<ul style="list-style-type: none">• NEBNext Ultra II Q5 Master Mix	<ul style="list-style-type: none">• NEBNext Sample Purif. Beads (SPRI-select) (#E7765)		
Ultra II Non-directional Kits	NEBNext Ultra II RNA Library Prep Kit for Illumina (#E7770)									<div></div> <div>Hands-On 27 min</div> <div>Total 5.5-5.7 hrs* 6.6-6.8 hrs**</div>
	NEBNext Ultra II RNA Library Prep with Sample Purification Beads (#7775)									
	<ul style="list-style-type: none">• First Strand Synthesis Reaction Buffer• First Strand Synthesis Enzyme Mix• Random Primers• Strand Specificity Reagent		<ul style="list-style-type: none">• Second Strand Synthesis Reac. Buffer with dUTP Mix• Second Strand Synthesis Enzyme Mix• Nuclease-free Water	<ul style="list-style-type: none">• End Prep Enzyme Mix• End Repair Reaction Buffer	<ul style="list-style-type: none">• Ultra II Ligation Master Mix• Ligation Enhancer• Adaptor Dilution Buffer	<ul style="list-style-type: none">• NEBNext Sample Purification Beads (SPRIselect) - #E7765 only	<ul style="list-style-type: none">• NEBNext Ultra II Q5 Master Mix	<ul style="list-style-type: none">• NEBNext Sample Purif. Beads (SPRI-select) - #E7765 only		
Ultra II Modules	rRNA Depletion Kit (hu/ms/rat) (#E6310, #6350, #E7400, #E7405)	Magnesium RNA Fragmentation Module (#E6150)	Ultra II RNA First Strand Synthesis Module (#E7771)	Ultra II Directional RNA Second Strand Synthesis Module (#E7550)	NEBNext Ultra II End Repair/dA Tailing Module (#E7546)	NEBNext Ultra II Ligation Module (#E7595)		NEBNext Ultra II Q5 Master Mix (#E0544)		
	<ul style="list-style-type: none">• RNase H/RNase H Reaction buffer• rRNA Depletion Solution• DNase I/DNase I Reaction Buffer• Nuclease-free Water• NEBNext RNA Sample Purif. Beads (#E6350)	<ul style="list-style-type: none">• RNA Fragmentation Buffer• RNA Fragmentation Stop Solution	<ul style="list-style-type: none">• First Strand Synthesis Reaction Buffer• First Strand Synthesis Enzyme Mix• Strand Specificity Reagent	<ul style="list-style-type: none">• Second Strand Synthesis• Second Strand Synthesis Reaction Buffer with dUTP	<ul style="list-style-type: none">• Ultra II End Prep Enzyme Mix• Ultra II End Prep Reaction Buffer	<ul style="list-style-type: none">• Ultra II Ligation Master Mix• Ligation Enhancer		<ul style="list-style-type: none">• NEBNext Ultra II Q5 Master Mix		
	Globin & rRNA Depletion Kit (hu/ms/rat) (#E7750, #E7755)			Ultra II Non-directional RNA Second Strand Synthesis Module (#E6111)						
	<ul style="list-style-type: none">• RNase H/RNase H Reaction Buffer• Globin & rRNA Depletion Sol.• Probe Hybridization Buffer• DNase I/DNase I Reaction Buffer• Nuclease-free Water• NEBNext RNA Sample Purif. Beads (#E775)			<ul style="list-style-type: none">• Second Strand Synthesis Enzyme Mix• Second Strand Synthesis Reaction Buffer						
	Poly(A) mRNA Magnetic Isolation Module (E#E7490)									
	<ul style="list-style-type: none">• Oligo d(T)25 Beads• RNA Binding Buffer• Wash Buffer• Nuclease-free Water									
	NEBNext® RNA Depletion Core Reagent Sets (#E7865, # E7870)									
	<ul style="list-style-type: none">• For customized RNA depletion									<div>*Including poly(A) mRNA isolation</div> <div>**Including rRNA depletion</div>

*Including poly(A) mRNA isolation
**Including rRNA depletion



NEBNext® Single Cell/Low Input RNA Library Prep Kit



This unique workflow meets the demand for a highly sensitive, yet robust method that consistently enables generation of high quality sequencing data from single cell or ultra-low input RNA.

- Generate the highest yields of high-quality sequencing libraries from single cells, or as little as 2 pg - 200 ng RNA
- Experience unmatched detection of low abundance transcripts
- Rely on consistent transcript detection for a wide range of input amounts and sample types
- Observe uniform transcript coverage, regardless of input amount or sample type
- Use with a variety of RNA inputs, including cultured or primary cells, or total RNA
- Save time with a fast, streamlined workflow, minimal handling steps and hands-on time

Product no	Product description	Size
E6420S	NEBNext Single Cell/Low Input RNA Library Prep Kit	24 reactions
E6421S	NEBNext Single Cell cDNA Synthesis & Amplification Module	24 reactions
E6421L	NEBNext Single Cell cDNA Synthesis & Amplification Module	96 reactions
E5530S	NEBNext Single Cell Lysis Module	96 reactions

NEBNext® Multiplex Small RNA Library Prep Set



The unique workflow of the NEBNext Small RNA library prep kits addresses the challenge of minimization of adaptor-dimers while achieving production of high-yield, diverse multiplex libraries in a simple protocol.

- Minimized adaptor-dimer contamination
- High yields
- Input RNA can be Total RNA
- Suitable for methylated small RNAs (e.g., piRNAs) as well as unmethylated small RNAs

Product no	Product description	Size
E7300S	NEBNext Multiplex Small RNA Library Prep Set (Set1)	24 reactions
E7300L	NEBNext Multiplex Small RNA Library Prep Set (Set1)	96 reactions
E7580S	NEBNext Multiplex Small RNA Library Prep Set (Set2)	24 reactions
E7580L	NEBNext Multiplex Small RNA Library Prep Set (Set2)	96 reactions
E7560S	NEBNext Multiplex Small RNA Library Prep Set (1-48)	96 reactions
E7330S	NEBNext Small RNA Library Prep Set (Multiplex Compatible)	24 reactions
E7330L	NEBNext Small RNA Library Prep Set (Multiplex Compatible)	96 reactions

D-Plex Total RNA-seq Kit for Illumina

The D-Plex technology utilizes the innovative capture and amplification by tailing and switching, a unique, ultrasensitive ligation-free method to generate RNA libraries for next generation sequencing. D-Plex Total RNA-seq Library Preparation Kit is a tool designed for the study of the whole coding and non-coding transcriptome. The kit is using the D-Plex technology to generate directional libraries for Illumina sequencing directly from total RNAs, mRNAs that has already been enriched by poly(A) selection, or RNAs that has already been depleted of rRNAs.

- Low inputs down to 50pg for total RNAs, mRNAs or rRNA-depleted RNAs
- Ligation-free assay – increased efficiency and minimum bias
- Libraries ready to sequence in only 5 hours, single tube protocol
- Suitable for both intact and highly degraded RNA samples, including FFPE preparations

Product no	Product description	Size
C05030031	D-Plex Total RNA-seq Kit for Illumina	24 reactions

D-Plex Small RNA-seq Kit for Illumina

This kit utilizes the D-Plex technology with poly(A) tailing and template switching to produce libraries from ultra-low input amounts. The kit is designed for study of the small non-coding transcriptome and generates small RNA libraries for Illumina sequencing directly from total RNAs or enriched small RNAs. This complete solution ensures a realistic and accurate representation of diverse small RNA species (such as microRNAs, piRNAs, tRNAs, and siRNAs) with minimized quantitative bias.

- Ultra-low input capability: down to 10 pg for small RNAs and 100 pg for total RNAs
- Ligation-free assay - increased efficiency and minimum bias
- Obtain a complete view of your small RNA transcriptome
- Optimal performance on clinical samples: validated with circulating RNAs from liquid biopsies
- Libraries ready to sequence in only 5 hours, single tube protocol
- Highest sequencing quality: requires minimized PhiX spike-in quantity for Illumina sequencing

Product no	Product description	Size
C05030001	D-Plex Small RNA-seq Kit for Illumina	24 reactions

D-Plex mRNA-seq Kit for Illumina

This kit utilizes the D-Plex technology with innovative capture and amplification by tailing and switching. D-Plex mRNA-seq Library Preparation Kit is a tool designed for the study of the whole coding transcriptome. The kit generates directional libraries for Illumina sequencing directly from total RNAs or mRNAs that has already been enriched by poly(A) selection.

- Ultra-sensitive with low input capability down to 10 ng
- Ligation-free assay - increased efficiency and minimum bias
- Libraries ready to sequence in only 5 hours, single tube protocol
- Suitable for both intact and highly degraded RNA samples, including FFPE preparations

Product no	Product description	Size
C05030033	D-Plex mRNA-seq Kit for Illumina	24 reactions



D-Plex mRNA Capture Module



Diagenode's D-Plex mRNA Capture Module is based on oligo d(T) magnetic beads to select only poly(A)-tailed RNAs such as mRNAs and some lncRNAs. The resulting captured-mRNA sample is recommended to be used in combination with the D-Plex Total RNA-seq Kit.

- D-Plex compatibility
- Fast 1 h protocol to isolate intact poly(A)-tailed RNAs from cells and tissue
- Generate mRNA sample that is intact and free of DNAs and other RNAs

Product no	Product description	Size
C050030032	D-Plex mRNA Capture Module	24 reactions

NEBNext® Magnetic Separation Rack



The NEBNext® Magnetic Separation Rack is designed for rapid and effective small-scale separations of magnetic particles, in 0.2 ml tubes. Next generation sequencing library preparation workflows include magnetic bead-based purification and size-selection steps. It is important for library yield and quality that bead separation is highly efficient and fast, and this is enabled by the powerful fixed magnet cores in this rack.

- Anodized aluminum rack with Neodymium Iron Boron (NdFeB) rare earth magnets, the most powerful commercially available
- 24 tube capacity: 8- and 12-strip 0.2 ml PCR tubes or individual 0.2 ml PCR tubes



Product no	Product description	Size
S1515S	NEBNext® Magnetic Separation Rack	24 tubes

NEBNext® Library Quant Kit



Accurate quantitation of next generation sequencing libraries is essential for maximizing data output and quality from each sequencing run. For Illumina sequencing specifically, accurate quantitation of libraries is critical to achieve optimal cluster densities, a requirement for optimal sequence output. qPCR is considered to be the most accurate and effective method of library quantitation, providing considerably higher consistency and reproducibility of quantitation. Further, amplification-based methods quantitate only those molecules that contain both adaptor sequences, thereby providing a more accurate estimate of the concentration of the library molecules that can be sequenced.

- Be confident in your quant values, with more accurate and reproducible results than other methods and kits
- Quantitate more libraries per kit, as only 4 standards are required
- Simplify your reaction setup with fewer pipetting steps and a single extension time for all libraries
- Use with all your libraries, regardless of insert size, GC content and preparation method

	Reagent Preparation	Library Dilution	Set Up	qPCR	Data Analysis	Total Workflow
Hands-On	5 min.	10 min.	25 min.	1 min.	10 min.	51 min.
Total	5 min.	10 min.	25 min.	60 min.	10 min.	1 hr. 45 min.

Product no	Product description	Size
E7630S	NEBNext Library Quant Kit for Illumina	100 reactions
E7630L	NEBNext Library Quant Kit for Illumina	500 reactions



rRNA depletion and mRNA enrichment

Ribosomal RNA (rRNA) is highly abundant in extracted RNA, and its removal is desirable to reveal the biological significance of less abundant transcripts for applications as next generation sequencing, random-primed cDNA synthesis etc.

In some samples e.g., RNA extracted from blood, Globin mRNA and rRNA are highly abundant. For these samples, the NEBNext® Globin & rRNA Depletion Kit (Human/Mouse/Rat) ensures an efficient and specific removal of both globin mRNA, cytoplasmic rRNA and mitochondrial rRNA.

Lastly, the NEBNext RNA Depletion Core Reagent set provides a customized approach to deplete unwanted highly expressed RNA transcripts from any organism, using probe sequences designed with the user-friendly NEBNext Custom RNA Depletion Design Tool.

The NEBNext rRNA Depletion kits employ the efficient RNase H method, as well as complete probe tiling of rRNA, thereby ensuring that even degraded rRNA is hybridized and subsequently removed.

All the kits are available with and without the NEBNext RNA Sample Purification Beads.

NEBNext® rRNA Depletion Kit (Human/Mouse/Rat)



The NEBNext rRNA Depletion Kit employs a RNase H-based method to deplete both cytoplasmic (5S rRNA, 5.8S rRNA, 18S rRNA and 28S rRNA) and mitochondrial ribosomal RNA (12S rRNA and 16S rRNA) from human total RNA preparations. This product is suitable for both intact and degraded RNA (e.g. FFPE RNA). The resulting rRNA-depleted RNA is suitable for RNA-Seq random-primed cDNA synthesis, or other downstream RNA analysis applications.

Product no	Product description	Size
E6310S	NEBNext rRNA Depletion Kit (Human/Mouse/Rat)	6 reactions
E6310L	NEBNext rRNA Depletion Kit (Human/Mouse/Rat)	24 reactions
E6310X	NEBNext rRNA Depletion Kit (Human/Mouse/Rat)	96 reactions
E6350S	NEBNext rRNA Depletion Kit (Human/Mouse/Rat) with Beads	6 reactions
E6350L	NEBNext rRNA Depletion Kit (Human/Mouse/Rat) with Beads	24 reactions
E6350X	NEBNext rRNA Depletion Kit (Human/Mouse/Rat) with Beads	96 reactions
E7400S	NEBNext rRNA Depletion Kit v2 (Human/Mouse/Rat)	6 reactions
E7400L	NEBNext rRNA Depletion Kit v2 (Human/Mouse/Rat)	24 reactions
E7400X	NEBNext rRNA Depletion Kit v2 (Human/Mouse/Rat)	96 reactions
E7405S	NEBNext rRNA Depletion Kit v2 (Human/Mouse/Rat) with Beads	6 reactions
E7405L	NEBNext rRNA Depletion Kit v2 (Human/Mouse/Rat) with Beads	24 reactions
E7405X	NEBNext rRNA Depletion Kit v2 (Human/Mouse/Rat) with Beads	96 reactions



NEBNext rRNA Depletion Kit (Bacteria)

The NEBNext® rRNA Depletion Kit (Bacteria) employs the NEBNext RNase H-based RNA depletion workflow to target removal of rRNA from gram-positive and gram-negative organisms. The method is effective with intact and degraded RNA, from monocultures or samples with mixed bacterial species (e.g., metatranscriptomic).

Product no	Product description	Size
E7850S	NEBNext rRNA Depletion Kit (Bacteria)	6 reactions
E7850L	NEBNext rRNA Depletion Kit (Bacteria)	24 reactions
E7850X	NEBNext rRNA Depletion Kit (Bacteria)	96 reactions
E7860S	NEBNext rRNA Depletion Kit (Bacteria) with RNA Sample Beads	6 reactions
E7860L	NEBNext rRNA Depletion Kit (Bacteria) with RNA Sample Beads	24 reactions
E7860X	NEBNext rRNA Depletion Kit (Bacteria) with RNA Sample Beads	96 reactions



NEBNext® Poly(A) mRNA Magnetic Isolation Module

Ribosomal RNAs (rRNAs) are extremely abundant, constituting 80 - 90 % of total RNA, and efficient removal of rRNA is critical to enable cost-effective sequencing of RNA samples. Oligo dT-based mRNA isolation is ideal for enrichment of mRNA and separation from rRNA when samples are eukaryotic and have intact poly(A) tails.

Product no	Product description	Size
E7490S	NEBNext Poly(A) mRNA Magnetic Isolation Module	24 reactions
E7490L	NEBNext Poly(A) mRNA Magnetic Isolation Module	96 reactions



NEBNext® Globin & rRNA Depletion kit

The great majority of RNA in blood samples is comprised of globin mRNA as well as cytoplasmic and mitochondrial ribosomal RNAs (rRNA). These highly abundant RNA species can conceal the biological significance of less abundant transcripts, and so their efficient and specific removal is desirable.

This kit is effective with human, mouse and rat total RNA preparations, both intact and degraded. The resulting depleted RNA is suitable for RNA-seq, random primed cDNA synthesis, or other downstream RNA analysis.

Product no	Product description	Size
E7750S	NEBNext Globin & rRNA Depletion kit (Human/Mouse/Rat)	6 reactions
E7750L	NEBNext Globin & rRNA Depletion kit (Human/Mouse/Rat)	24 reactions
E7750X	NEBNext Globin & rRNA Depletion kit (Human/Mouse/Rat)	96 reactions
E7755S	NEBNext Globin & rRNA Depletion kit (Human/Mouse/Rat) with sample Purification Beads	6 reactions
E7755L	NEBNext Globin & rRNA Depletion kit (Human/Mouse/Rat) with sample Purification Beads	24 reactions
E7755X	NEBNext Globin & rRNA Depletion kit (Human/Mouse/Rat) with sample Purification Beads	96 reactions



NEBNext RNA Depletion Core Reagent set – customized approach

The NEBNext RNA Depletion Core Reagent set provides a customized approach to deplete unwanted RNA from any organism, using probe sequences designed with the user-friendly NEBNext Custom RNA Depletion Design Tool.

Product no	Product description	Size
E7865S	NEBNext® RNA Depletion Core Reagent Set	6 reactions
E7865L	NEBNext® RNA Depletion Core Reagent Set	24 reactions
E7865X	NEBNext® RNA Depletion Core Reagent Set	96 reactions
E7870S	NEBNext® RNA Depletion Core Reagent Set with RNA Sample Purification Beads	6 reactions
E7870L	NEBNext® RNA Depletion Core Reagent Set with RNA Sample Purification Beads	24 reactions
E7870X	NEBNext® RNA Depletion Core Reagent Set with RNA Sample Purification Beads	96 reactions

Adaptors and Primers

NEBNext® Oligos for Library Prep



Designed for use in library prep for DNA, ChIP DNA, and RNA (but not small RNA), the NEBNext adaptors enable high-efficiency adaptor ligation and high library yields, with minimized adaptor-dimer formation. Incorporating a novel hairpin loop structure, the NEBNext Adaptor ligates with increased efficiency to end-repaired, dA-tailed DNA. The loop contains a U, which is removed by treatment with USER® Enzyme (a combination of UDG and Endo VIII), to open up the loop and make it available as a substrate for PCR. During PCR, barcodes can be incorporated by use of the NEBNext index primers, thereby enabling multiplexing. NEBNext oligos can be used with NEBNext products, and with other standard Illumina-compatible library preparation protocols.

Single or dual barcode primer options are available. Unique dual index primer pairs are available to address the “index hopping” seen with certain Illumina sequencing instruments. Multiplex Oligos with unique molecular identifier (UMI) adaptors have been designed and optimized for use in DNA sequencing workflows, including PCR-free. These adaptors enable the identification and removal of PCR errors or duplicates from amplified libraries.

Product no	Product description	Sizes
E6440	NEBNext Multiplex Oligos for Illumina (96 Unique Dual Index Primer Pairs)	96 or 384 reactions
E6442	NEBNext® Multiplex Oligos for Illumina® (96 Unique Dual Index Primer Pairs Set 2)	96 or 384 reactions
E6444	NEBNext® Multiplex Oligos for Illumina® (96 Unique Dual Index Primer Pairs Set 3)	96 or 384 reactions
E6446	NEBNext® Multiplex Oligos for Illumina® (96 Unique Dual Index Primer Pairs Set 4)	96 or 384 reactions
E7600	NEBNext Multiplex Oligos for Illumina (Dual Index Set 1)	96 reactions
E7780	NEBNext Multiplex Oligos for Illumina (Dual Index Set 2)	96 reactions
E7335	NEBNext Multiplex Oligos for Illumina (Index Primer Set 1)	24 or 96 reactions
E7500	NEBNext Multiplex Oligos for Illumina (Index Primer Set 2)	24 or 96 reactions
E7710	NEBNext Multiplex Oligos for Illumina (Index Primer Set 3)	24 or 96 reactions
E7730	NEBNext Multiplex Oligos for Illumina (Index Primer Set 4)	24 or 96 reactions
E6609	NEBNext Multiplex Oligos for Illumina (96 Index Primers)	96 or 384 reactions
E7395	NEBNext® Multiplex Oligos for Illumina® (Unique Dual Index UMI Adaptors DNA Set 1)	96 or 384 reactions
E7416	NEBNext® Multiplex Oligos for Illumina® (Unique Dual Index UMI Adaptors RNA Set 1)	96 or 384 reactions
E7140	NEBNext Multiplex Oligos for Enzymatic Methyl-seq (Unique Dual Index Primer Pairs)	24 or 96 reactions
E7535	NEBNext Multiplex Oligos for Illumina (Methylated Adaptor, Set 1)	24 or 96 reactions
E7350	NEBNext Singleplex Oligos for Illumina	12 or 60 reactions

Index primers for library preparation

Diagenode's ChIP-seq Library Preparation Kits have been extensively validated for ChIP-seq samples and are optimized to generate DNA libraries with high molecular complexity. The kits include all buffers and enzymes necessary for the library preparation. For flexibility of the choice different formats of compatible primer indexes are available separately.

Product no	Product description	Sizes
C05010021	Index Primer Set 2 for iDeal Library Preparation Kit	Set 1- 12SI/24 rxns
C05010008	Unique dual indexes for MicroPlex Library preparation Kit v3	Set 1- 24 UDI/48 rxns
C05010009	Unique dual indexes for MicroPlex Library preparation Kit v3	Set 2- 24 UDI/48 rxns
C05010003	Dual indexes for MicroPlex Library preparation Kit v3	24 DI/48 rxns
C05010004	Dual indexes for MicroPlex Library preparation Kit v3	Set I- 96DI/96 rxns
C05010005	Dual indexes for MicroPlex Library preparation Kit v3	Set II- 96DI/96 rxns
C05010006	Dual indexes for MicroPlex Library preparation Kit v3	Set III- 96DI/96 rxns
C05010007	Dual indexes for MicroPlex Library preparation Kit v3	Set IV- 96DI/96 rxns
C01011034	Unique dual indexes for μ ChIPmentation, TAG Kit for ChIPmentation, ATAC-seq or CUT&Tag	Set I- 24 UDI
C01011035	Unique dual indexes for μ ChIPmentation, TAG Kit for ChIPmentation, ATAC-seq or CUT&Tag	Set I- 8 UDI
C01011036	Unique dual indexes for μ ChIPmentation, TAG Kit for ChIPmentation, ATAC-seq or CUT&Tag	Set II- 24 UDI
C01011031	Single primer indexes for tagmentation-based library preparation protocols, such as ATAC-seq or CUT&Tag	24 SI
C01011032	Single primer indexes for ChIPmentation, ATAC-seq or CUT&Tag	24 SI
C01011033	Single primer indexes for ChIPmentation, ATAC-seq or CUT&Tag	8 SI

Custom NGS Oligo Synthesis

After DNA fragmentation, adapters (including indexes for multiplexing) are fused to the fragments. Next Generation Sequencing Adapters require both a high level of purity (no n-x side products) and the absence of cross-contamination (confusing index sequences). Thanks to their long history as an oligo provider, Eurogentec has developed a dedicated manufacturing process for the production of high quality NGS oligos.

- Quality: Low cross-contamination (< 0,1 %)
- Length: From 20 to 85 bases
- Quantity: 10 nmol minimum delivered*
- Purification: HPLC or cartridge
- QC: 100 % QC checked by Maldi-TOF MS
- 5' Modifications: 5' Phosphate / 5' Biotin-TEG
- Bases Option: Phosphorothioate bond
- Wobble Bases: Available at no additional cost
- Format: dried in tubes

*Larger amounts are available on request

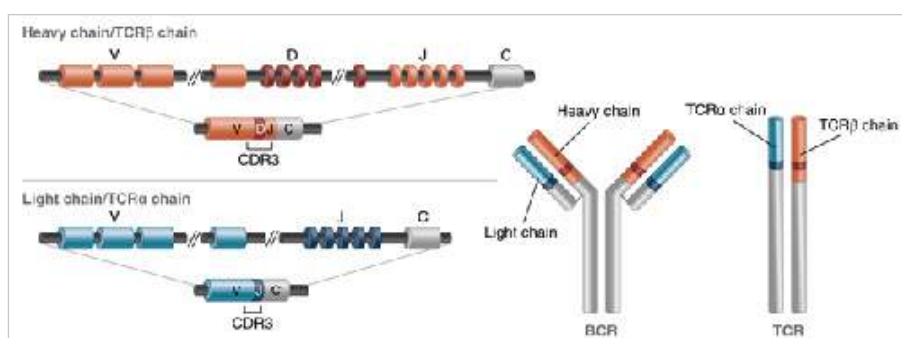
Target enrichment

NEBNext® Immune Sequencing



With the NEBNext® Immune Sequencing Kit (Human), you may sequence the full-length immune gene repertoires of B cells and T cells. Profile somatic mutations across all relevant contexts (e.g., V, D, and J segments and isotypes IgM, IgD, IgG, IgA, and IgE) with improved sequence accuracy. Characterize BCR light, BCR heavy, TCRα and TCRβ chains.

This kit includes Unique Molecular Identifiers (UMIs) for source-molecule identification enabling accurate quantification. Data analysis using a bioinformatic workflow based on the open-source pRESTO toolkit (tutorial).



Product no	Product description	Size
E6320S	NEBNext® Immune Sequencing Kit (Human)	24 reactions
E6320L	NEBNext® Immune Sequencing Kit (Human)	96 reactions
E6330S	NEBNext® Immune Sequencing Kit (Mouse)	24 reactions
E6330L	NEBNext® Immune Sequencing Kit (Mouse)	96 reactions

NEBNext® Microbiome DNA Enrichment Kit



The NEBNext® Microbiome DNA Enrichment Kit facilitates efficient enrichment of microbial DNA from samples containing methylated host DNA (including human), by selective binding and removal of the CpG-methylated host DNA. Importantly, microbial diversity remains intact after enrichment.

The NEBNext Microbiome DNA Enrichment Kit is suitable for a wide range of sample types, including samples with high levels of contaminating host DNA, and is also effective for separation of organelle DNA (e.g. mitochondria, chloroplast) from eukaryote nuclear DNA. The kit is compatible with downstream applications including next generation sequencing on all platforms, qPCR and end-point PCR.

Product no	Product description	Size
E2612S	NEBNext® Microbiome DNA Enrichment Kit	6 reactions
E2612L	NEBNext® Microbiome DNA Enrichment Kit	24 reactions

Nucleic Acid Purification

Monarch® Plasmid Purification (Miniprep)



- Eliminate buffer retention and elute in $\geq 30 \mu\text{l}$
- Track progress with our easy-to-use colored buffers
- Reduce hands on time with faster protocols and less spin time
- No need to add RNase before starting

Product no	Product description	Size
T1010S	Monarch Plasmid Miniprep Kit	50 preps
T1010L	Monarch Plasmid Miniprep Kit	250 preps

Monarch® DNA Cleanup and Gel Extraction



- Quickly purify DNA (50 bp to 25 kb) after enzymatic reactions and from agarose gels
- Simple PCR cleanup in just 5 minutes
- Elute in as little as $\geq 6 \mu\text{l}$
- Purify oligos, ssDNA and small DNA fragments with a simple protocol modification

Product no	Product description	Size
T1030S	Monarch PCR & DNA Cleanup Kit (5ug)	50 preps
T1030L	Monarch PCR & DNA Cleanup Kit (5ug)	250 preps
T1020S	Monarch DNA Gel Extraction Kit	50 preps
T1020L	Monarch DNA Gel Extraction Kit	250 preps

Monarch® Genomic DNA Purification



- Purify high quality genomic DNA (gDNA) from a broad range of sample types (cells, blood, tissues, and more)
- Achieve excellent yields with extremely low (typically $< 1\%$) residual RNA contamination (RNase A is included)
- Isolate high molecular weight gDNA (peak size typically $\geq 50 \text{ kb}$)

Product no	Product description	Size
T3010S	Monarch Genomic DNA Purification Kit	50 preps
T3010L	Monarch Genomic DNA Purification Kit	150 preps



Monarch® High Molecular Weight DNA (HMW DNA) Extraction

- Quickly and easily isolate HMW DNA from cells, blood, tissues, bacteria, and other sample types
- Achieve DNA into the Megabase (Mb) size range
- Tune the size of isolated DNA by adjusting the agitation speed during lysis
- Obtain best-in-class yields of highly pure and intact DNA, with efficient RNA removal
- Experience excellent performance in long read sequencing

Product no	Product description	Size
T3050S	Monarch HMW DNA Extraction Kit for Cells & Blood	5 preps
T3050L	Monarch HMW DNA Extraction Kit for Cells & Blood	50 preps
T3060S	Monarch HMW DNA Extraction Kit for Tissue	5 preps
T3060L	Monarch HMW DNA Extraction Kit for Tissue	50 preps

Monarch® Total RNA Miniprep Kit



Quickly and easily purify up to 100 µg of high quality total RNA from multiple sample types – all with one kit!

- For use with blood, cells and tissues, saliva, and buccal/nasopharyngeal swabs
- Also works with tough to lyse samples (bacteria, yeast, plant)
- Effectively purifies total RNA of all sizes, including small RNAs >20 nt
- Efficient genomic DNA removal (column and DNase I-based)
- Contains Proteinase K for processing of tissues and blood samples
- Includes DNA/RNA Protection Reagent for sample preservation
- Protocols available for automated RNA extraction from saliva on the QIAcube® and KingFisher™ Flex

Product no	Product description	Size
T2010S	Monarch® Total RNA Miniprep Kit	50 preps

Monarch® RNA Cleanup Kit (10, 50 and 500µg)



The Monarch RNA Cleanup Kit (3 size versions, 10, 50 and 500µg) enables fast and simple purification and concentration of RNA from enzymatic reactions.

- Ideal for cleanup and concentration of RNA after enzymatic treatments including DNase I, Proteinase K, labeling, capping or *in vitro* transcription (IVT)
- Efficiently purify RNA ≥ 25 nt (a simple modification enables purification of RNA ≥ 15 nt)
- Elute in low volumes for concentrated RNA
- 70-100% RNA recovery
- Can be used to purify RNA from the aqueous phase following TRIzol® or similar extractions
- Simplified workflow with a single wash buffer
- Unique column design prevents buffer carryover and elution of silica particulates

Product no	Product description	Size
T2030S	Monarch® RNA Cleanup Kit (10 µg)	10 preps
T2030L	Monarch® RNA Cleanup Kit (10 µg)	100 preps
T2040S	Monarch® RNA Cleanup Kit (50 µg)	10 preps
T2040L	Monarch® RNA Cleanup Kit (50 µg)	100 preps
T2050S	Monarch® RNA Cleanup Kit (500 µg)	10 preps
T2050L	Monarch® RNA Cleanup Kit (500 µg)	100 preps

Expression profiling

EdgeSeq system



The HTG EdgeSeq processor, assays, and parser software produce gene expression profiles from a wide variety of specimen types to accelerate discovery, support translational studies, and evaluate target biomarkers for companion diagnostic development. Their solutions enable fast, reliable, reproducible, and quantitative analysis of thousands of targeted RNAs from a single assay in as little as 36 hours with reduced hands-on time.

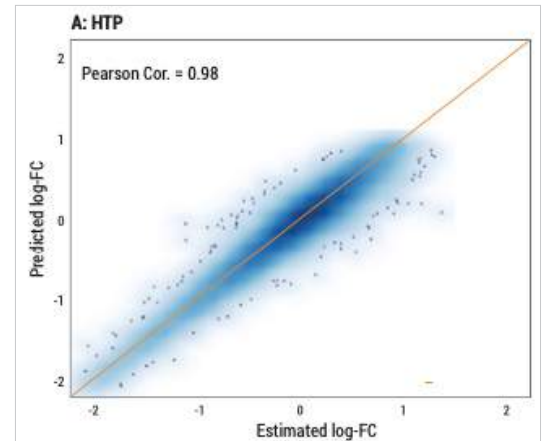
- Automated solutions quickly and reliably generate gene expression profiles
- A simple next-generation sequencing (NGS) library preparation workflow resulting in more reproducible results
- Elimination of technically challenging steps reduces hands-on time
- Simple data analysis from an intuitive graphic user interface
- The HTG EdgeSeq system is used with next-generation sequencing (NGS) instrumentation to produce gene expression profiles in as little as 36 hours
- Extraction-free chemistry
- Their extraction-free chemistry significantly reduces sample input requirements and preserves valuable specimens. The HTG EdgeSeq chemistry eliminates timely and technically challenging steps like cDNA synthesis, size selection, removal of rRNA, mRNA end repair, and adapter ligation.

Product no	Product description
HTG EDGE-SQ-100	HTG EdgeSeq system
HTG EDGE-SQ-100E	HTG EdgeSeq system CE-IVD
HTG EDGE-SP-010	HTG EdgeSeq processor
HTG EDGE-PC-001	HTG Edge system PC, algorithm, accessories

HTG Transcriptome Panel – 19,398 targets from FFPE

The HTG Transcriptome Panel (HTP) is expertly designed to provide extensive coverage of most human mRNA transcripts including isoforms. The panel can simultaneously interrogate 19,398 targets using Formalin Fixed Paraffin Embedded (FFPE), PAXgene and extracted RNA samples, generating data for up to 96 samples in less than three days. HTP utilizes our proprietary workflow and leverages the sensitivity and dynamic range of next-generation sequencing (NGS), allowing researchers to generate reliable results using limited sample amount.

- Expertly Curated Panel: Fast and easy to use solution to measure mRNA transcriptome
- Simplify your Transcriptome Analysis: Generate comprehensive mRNA profile with our streamlined workflow
- Extraction Free Workflow: Transcriptome analysis from limited amount and low quality RNA samples
- Compatible with common, biologically relevant sample types including FFPE, PAXgene and extracted RNA
- Simplified Data Analysis: Provides one click solution to visualization data and generate publication ready figures



EdgeSeq Assays



The multiplexed gene expression panels from HTG leverage the power and sensitivity of next generation sequencing, allowing you to support both research and diagnostic objectives.

CE-IVD Assays for diagnostic applications

Product no	Product description	Sizes
CE-006-	HTG EdgeSeq ALKPlus Assay EU*	1X8, 4X8, 4X24 or 1X96 reactions
CE-003-	HTG EdgeSeq DLBCL Cell of Origin Assay EU*	4X8, 4X24 or 1X96 reactions

Research Use Only (RUO) Panels

Product no	Product description	Sizes
916-001-	miRNA Whole Transcriptome Assay***	2X8, 4X8, 1X24, 4X24 or 1X96 reactions
916-002-	Oncology Biomarker Panel***	2X8, 4X8, 1X24, 4X24 or 1X96 reactions
916-011-	Precision Immuno-Oncology Panel***	2X8, 4X8, 1X24, 4X24 or 1X96 reactions
916-015-	Immune Response Panel***	2X8, 4X8, 1X24, 4X24 or 1X96 reactions
916-017-	Pan B-Cell Lymphoma Panel***	2X8, 4X8, 1X24, 4X24 or 1X96 reactions
916-010-	Mouse mRNA Tumor Response Panel***	2X8, 4X8, 4X4 or 1X96 reactions
916-014-	Lung Fusions Assay***	2X8, 4X8, 1X24, 4X24 or 1X96 reactions
916-003/016-	DLBCL Cell of Origin Assay**	2X8, 4X8, 1X24, 4X24 or 1X96 reactions

*Illumina MiSeq Configuration **Illumina or Ion Torrent Configuration ***Ion S5 Configuration

Access to HTG technology



There are four ways to access HTG EdgeSeq technology:

- By deploying the HTG EdgeSeq system directly in your lab
- Through our VERI/O Laboratory Services
- Through one of HTG's Qualified Service Providers
- Through one of HTG's Preferred Academic Centers of Excellence (PACE).

COVID sequencing

NEBNext® ARTIC kits



The NEBNext ARTIC kits are based on the original work of the ARTIC Network, who quickly adapted their protocols to SARS-CoV-2 (Josh Quick 2020. nCoV-2019 sequencing protocol v2 (GunIt)).

The ARTIC method is a multiplexed amplicon-based whole-viral-genome sequencing approach, and the NEBNext ARTIC kit options are compatible with Illumina and Oxford Nanopore Technologies sequencing platforms. The two kits compatible with Illumina sequencing generate library inserts of ~150 bp or ~400 bp, for 2 x 75 or 2 x 250 sequencing, respectively. The NEBNext ARTIC SARS-CoV-2 RT-PCR Module contains only the reagents required for cDNA synthesis and targeted cDNA amplification from SARS-CoV-2 genomic RNA.

- Improved uniformity of SARS-CoV-2 genome coverage depth
- Streamlined, high-efficiency protocols
- Effective with a wide range of viral genome inputs (10 - 10000 copies)
- Available for Illumina and Oxford Nanopore Technologies sequencing platforms
- Single RT conditions for all input amounts
- No requirement for amplicon normalization prior to library preparation (Illumina-compatible kits)
- Optional use control human primers provided
- Varskip primers also included in the kit

Product no	Product description	Size
E7650S	NEBNext ARTIC SARS-CoV-2 Library Prep Kit (Illumina) (for ~400 bp libraries)	24 reactions
E7650L	NEBNext ARTIC SARS-CoV-2 Library Prep Kit (Illumina) (for ~400 bp libraries)	96 reactions
E7658S	NEBNext ARTIC SARS-CoV-2 FS Library Prep Kit (Illumina) (for ~150 bp libraries)	24 reactions
E7658SL	NEBNext ARTIC SARS-CoV-2 FS Library Prep Kit (Illumina) (for ~150 bp libraries)	96 reactions
E7660S	NEBNext ARTIC SARS-CoV-2 Companion Kit (Oxford Nanopore Technologies)	24 reactions
E7660L	NEBNext ARTIC SARS-CoV-2 Companion Kit (Oxford Nanopore Technologies)	96 reactions

Shearing Technologies

Bioruptor® Pico



The Bioruptor Pico is ideal for DNA shearing for next generation sequencing, Chromatin Shearing, RNA Shearing, Protein extraction from tissues and cells, FFPE DNA Extraction and protein aggregation studies.

- All-in-one shearing solution
- Simultaneous sonication of 1 - 16 samples
- Ultra-low volumes of 20 μ l to larger samples of up to 2 ml
- Advanced timing and temperature control

Bioruptor® Plus



The Bioruptor Plus is an excellent device for shearing chromatin, cell and tissue disruption prior to mass spectrometry analysis and many other applications.

- Process 3 - 12 samples
- Sample size 100 μ l to 20 ml
- Advanced timing and temperature control

Diagenode One



The Diagenode One is a desktop solution that provides optimal DNA shearing for next generation sequencing and chromatin shearing for ChIP analysis with small samples.

- Compact size
- Small volume DNA and chromatin shearing for optimal sample prep
- Shear 20 μ l or 50 μ l, 200 bp - 1 kb
- Optimal for next generation sequencing library preparation

Megaruptor® 3



The Megaruptor 3 was designed to provide the best experience with the fragmentation of DNA from 5 kb- 100 kb. Shearing performance is independent of the source, concentration, temperature, and salt content of a DNA sample.

- Tight fragment size distribution
- Shear anywhere from 5 kb to 100 kb
- Process up to 8 samples simultaneously
- Perfect for long fragment DNA sequencing

NanoDrop

NanoDrop™ Microvolume UV-Vis Spectrophotometers

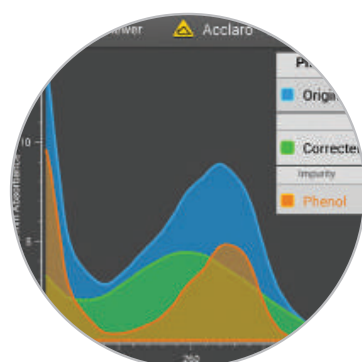
Thermo
SCIENTIFIC



NanoDrop One



NanoDrop Eight



Acclaro

NanoDrop One

Thermo Scientific™ NanoDrop One microvolume UV-Vis spectrophotometers quantify and qualify DNA, RNA, and proteins in seconds using only 1–2 μL of sample.

In your next generation sequencing library preparation workflow, the NanoDrop is convenient for checking purity and approximate concentrations of your libraries or samples. Libraries with poor 260/230 or 260/280 ratios may interfere with sequencing and the user should then consider additional library cleanup.

- Fast and easy evaluation of nucleic acids and proteins with Auto-Measure and pre-programmed applications
- Modern standalone design with local control and high-resolution touchscreen interface saves bench space
- Accurate measurements up to 27 500 $\text{ng}/\mu\text{L}$ (dsDNA) with extended auto-range pathlength technology
- No consumables needed - pipette directly onto the pedestal sample-retention system
- Enhanced connectivity with data transfer via USB, Ethernet, Bluetooth® and Wi-Fi options; PC control software available for easier data management and optional Security Suite for 21 CFR part 11 compliance
- Optional cuvette position for measuring dilute solutions and performing kinetic measurements or temperature sensitive experiments

NanoDrop Eight

NanoDrop Eight is a new generation of the popular eight-channel NanoDrop 8000.

- Extended detection limit: Measure up to 10,000 $\text{ng}/\mu\text{L}$ dsDNA or 145 mg/mL IgG
- Improved wavelength range: Now 190- 850 nm
- Fast reading: Measure eight samples in less than 20 seconds
- Improved efficiency: Auto-blank and auto-read functions give faster results
- Overview: All sample information in a single display window
- Light board to keep track of pipetting progress
- 21 CFR part 11 compliant
- LIMS-compatible

Acclaro™ Sample Intelligence technology

Acclaro Sample intelligence technology is a game changer. NanoDrop One is built with Thermo Scientific Acclaro Sample Intelligence technology which helps you to understand the quality of your sample before using it in downstream applications. The unique contaminant analysis can identify nucleic acid contaminants such as RNA contamination in dsDNA sample and chemical contaminants such as phenol in RNA samples. With sample information alerts and on-demand technical support, the Acclaro technology brings a new level of confidence in results, making NanoDrop One the ideal UV-Vis spectrophotometer for life science researchers.

Automated Size Selection



BluePippin

DNA Size Selection for Next Gen Sequencing, with Pulsed-Field (100 bp-50 kb)



The BluePippin system uses dye-free, pre-cast gel cassettes to separate and extract desired DNA fragment size ranges from agarose. It enables size selection for fragment lengths between 100 bp to 50 kb using different gel cassettes. The BluePippin system can run pulsed-field gel electrophoresis programs and thus separate large DNA fragments. Depending on the type of gel cassette, up to 4 or 5 samples/cassette may be run with no possibility of cross contamination.

Key downstream technologies:

- Mate-pair sequencing
- Single molecule sequencing
- Barcoded linked reads

Pippin Prep

Targeted Size Selection for Next Gen Sequencing (100 bp – 1,5 kb)



The Pippin Prep facilitates library construction for the most popular NGS platforms, and is recommended by Illumina and Ion Torrent for certain workflows. The platform features the ability to collect narrow and even fragment distributions, as well as the flexibility to collect wide ranges of fragments with minimal effort. Target sizes or ranges of sizes are entered in software, and fractions are collected in buffer. Up to 5 samples per gel cassette may be run, with no possibility of cross contamination.

Key downstream technologies:

- Paired-end sequencing
- emPCR
- RNA-seq
- ChIP-seq

PippinHT

High Throughput Size Selection for Next Gen Sequencing



High throughput size selection for up to 24 samples per run, compared to a maximum of five with Pippin Prep or BluePippin. The instrument offers an efficient, automated solution for scientists running busy sequencing labs, core facilities, and other laboratories producing large-scale sequencing data.

Key downstream technologies:

- Whole genome sequencing
- miRNA library isolation

HLS2 HMW Library System

Extract up to 1MB DNA directly from cells



In the HLS2 system you load cells suspensions or cell nuclei on Sage Science gel cassettes to perform lysis under electrophoretic conditions. This removes degraded and solubilized proteins but leaves intact DNA behind, bound in agarose. A cleavage is then used to carefully fragment the DNA into electrophoretically-mobile sizes.

Automated DNA size selection collects the DNA in 6 size bins. The HLS2 offers the same capabilities as the original SageHLS except for the capability to heat or cool the agarose gel cassettes. This has been deemed unnecessary for HLS-CATCH and supported applications.

SageELF

Whole Sample Fractionation of DNA or Protein



Separates DNA or protein samples by size, and then fractionates the whole sample, or section of sample, into 12 fractions. The system is equipped with pulsed-field electrophoresis for resolving large DNA.

Key downstream technologies:

- Proteomics and mass spec
- Mate-pair sequencing
- Splice variant detection

Nanopore Sequencers Give Optimal Results with BluePippin Size Selection



The Oxford Nanopore team has been speaking about their use of our BluePippin automated size selection system for optimizing the read length obtained from nanopore sequencers.

As seen with PacBio, the other long-read platform, single-molecule sequencers tend to produce reads as long as the fragments fed to them. Naturally, users interested in maximizing the read lengths of these systems want to feed them only the longest possible fragments. The simplest and most effective way to do that is what we call high-pass sizing, or selecting all DNA fragments longer than a certain size threshold during the sample prep process.

For the Minlon and PromethION sequencers from Oxford Nanopore, the company recommends BluePippin sizing for various protocols. BluePippin is programmed to eliminate shorter fragments. If you're an Oxford Nanopore user who doesn't already have access to a BluePippin, contact us to learn how the system makes a difference to your workflow!

Product update: The High Pass Plus Cassette for BluePippin



The High Pass Plus™ gel cassette is the newest addition to the Pippin Family. As the name suggests, it is dedicated to the BluePippin "High-Pass" DNA size selection which has been a go-to method for increasing the read lengths for long-read sequencing. High Pass size selection removes smaller DNA fragments from a sheared genomic DNA (or sequencing library) while collecting the remaining larger fragments above a tightly controlled size threshold. This way, larger molecules can be presented to the detector or droplet, and better sequencing performance can be achieved.

The High Pass Plus cassette has a stocky separation column, so DNA has a shorter distance to travel. The wider column and increased taper provide higher resolution for a cleaner and more accurate size cut-off. The larger sample wells now allow a maximum load of 10 µg (100 % up from standard BluePippin cassettes). We've also increased the size of the elution module and surface area of the filtration membrane, bringing about improved sample recovery and reproducibility.



Custom Services

Epigenomics Service



The Epigenomics profiling services from Diagenode assure the sample preparation expertise and quality data that you seek. They provide epigenome-wide analysis for understanding epigenetic mechanisms, epigenetics-related drug discovery, transgenerational studies, biomarker identification, and functional epigenomics.

- Quality: Multiple QC steps and validated reagents
- Flexibility: Extensive range of sample origins and species
- End-to-end epigenetic service
- Dedicated in-house experts
- Integrative data analysis and presentation-quality data

Chromatin analysis

- Histone modification ChIP-qPCR/ChIP-seq
- Promoter analysis
- Enhancer analysis
- Transcription factor ChIP-qPCR/ChIP-seq
- Customized NGS service
- Chromatin accessibility (ATAC-seq)

DNA methylation analysis

- Reduced representation bisulfite sequencing (RRBS)
- Whole genome bisulfite sequencing analysis (WGBS)
- Targeted DNA methylation via pyrosequencing, amplicon, or custom capture probes
- Genome-wide DNA methylation
- Differentially methylated region analysis

RNA-seq analysis

- Small RNA sequencing
- mRNA sequencing
- Whole transcription analysis
- Gene expression profiling

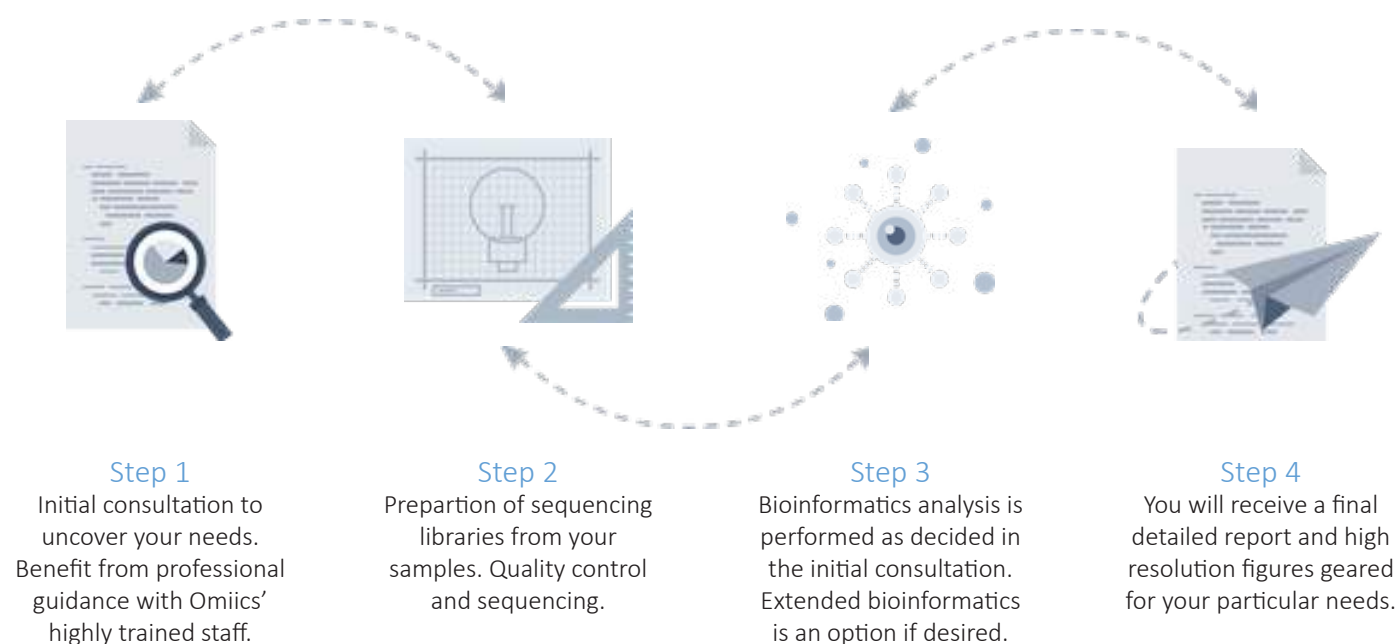
RNA NGS Service

Omiics are specialized experts in NGS for RNA and can handle everything from library preparation and QC to bioinformatics analysis and specific aspects of your NGS project. They offer a complete RNA NGS service package, assisting you in choosing the optimal NGS approach for your samples and handle all steps in the NGS process, to finally provide you with the analyzed data in a detailed and easy-to-understand report.

Some of the services Omiics offer:

- microRNA sequencing
- Sequencing of total RNA content
- Low input samples
- SME partner in research consortium
- Quantification of miRNA
- Quantification mRNA and other long RNAs
- Flexible bioinformatics analysis
- Assistance writing funding applications
- Analyzing your already made NGS data

The Process of a Standard NGS Project at Omiics:



Contact BioNordika for a non-binding discussion about your next project.

CONTACT INFORMATION

DENMARK

Phone: +45 3956 2000
info@bionordika.dk
www.bionordika.dk

FINLAND

Phone: +358 207 410 270
info@bionordika.fi
www.bionordika.fi

NORWAY

Phone: +47 23 03 58 00
info@bionordika.no
www.bionordika.no

SWEDEN

Phone: +46 08-30 60 10
info@bionordika.se
www.bionordika.se

