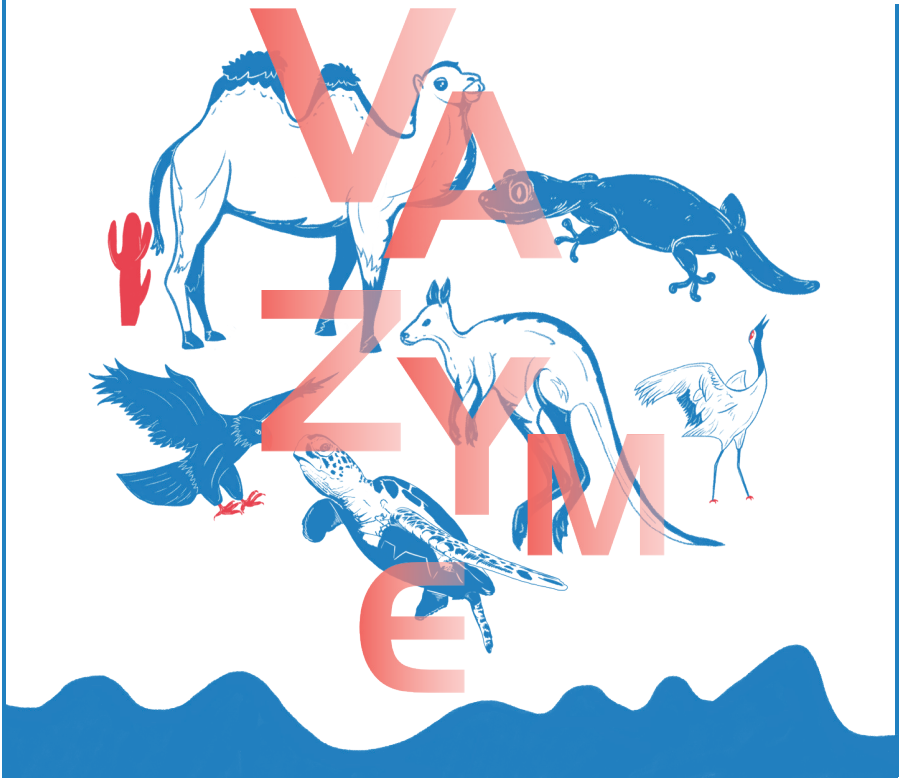
Vazyme

Stratech

2020

2020 Product Catalogue



Reagents for NGS Library Preparation

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Overview of Vazyme

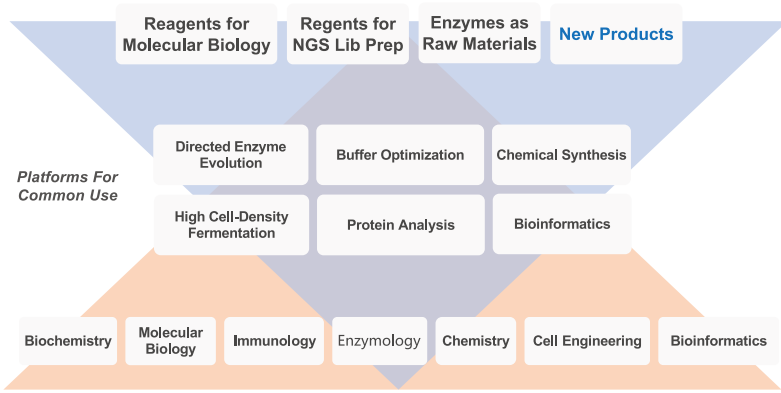
Vazyme: InoVation in Enzyme Technology

With the faith of “InnoVation in Enzyme Technology”, Vazyme Biotech Co., Ltd. has passionately focused on developing enzyme and antibody technologies and products for years. The Vazyme Biotech is now staffed by more than 1,000 employees. The headquarter is located in Nanjing of China with a R&D / manufacturing base that covers 25,000 m² and a GMP workshop of 4,000 m². Vazyme has developed a powerful sales network in China and is expanding into international markets.

Vazyme Technologies and Products

With years of experience, Vazyme has developed six technology platforms that can be commonly used for R&D and manufacturing, including (1) directed enzyme evolution, (2) buffer optimization, (3) chemical synthesis, (4) high cell-density fermentation, (5) protein analysis, and (6) bioinformatics.

Based on the above platforms, Vazyme now provides a variety of products, solutions, and services, which fall into three major product lines, including (1) solutions for molecular biology research, (2) solutions for Next-Generation Sequencing (NGS) library preparation, and (3) enzymes as raw materials for industrial use.



Developing Technologies to Improve Human Health

Fascinated by the enzyme and antibody technologies, we regard enzymes and antibodies as the key factor of the biotechnology industry. Vazyme's vision is to develop technology to improve human health.

Experts for Experts

2020 Vazyme Product Catalogue

Reagents for NGS Library Preparation

Contents

Contents

Product List 01

Featured Products 04

Applications 05

DNA-Seq 05

RNA-Seq 13

Epigenetics 20

Single-Cell Seq 24

Beads & Library Quantification 26

cfDNA 28

Selected Product Citations 29

DNA-Seq

DNA Library Prep (for Illumina®)

Application	Product Name	Cat. No.#	Size	List Price (USD)
Transposase-based DNA Lib Prep Kits	TruePrep DNA Library Prep Kit V2 for Illumina® (50 ng)	TD501	24 rxn/96 rxn	904 / 3,254
HOT	TruePrep DNA Library Prep Kit V2 for Illumina® (5 ng)	TD502	24 rxn/96 rxn	904 / 3,254
	TruePrep DNA Library Prep Kit V2 for Illumina® (1 ng)	TD503	24 rxn/96 rxn	607 / 2,310
	TruePrep Homo-N7 DNA Library Prep Kit for Illumina®	TD511/TD512/TD513	96 rxn	3,254
Single-Indexed Adapters	TruePrep Index Kit V4 for Illumina®	TD204/TD205/TD206/TD207	192 rxn	209 each set
Dual-Indexed Adapters	TruePrep Index Kit V2 / V3 for Illumina®	TD202/TD203	96 kinds/384 kinds	209 / 835
Universal DNA Lib Prep Kits	VAHTS Universal DNA Library Prep Kit for Illumina® V3	ND607-01/02	24 rxn/96 rxn	428 / 1,636
HOT	VAHTS Universal DNA Library Prep Kit for Illumina® V3 (PCR-Free)	ND607-03/04	24 rxn/96 rxn	412 / 1,573
New	VAHTS Universal DNA Library Prep Kit for Illumina® V5	ND610-01/02	24 rxn/96 rxn	428 / 1,636
DNA Lib Prep Kits for Enzymatic Fragmentation	VAHTS Universal Plus DNA Library Prep Kit for Illumina®	ND617-01/02	24 rxn/96 rxn	492 / 1,887
FFPE DNA Lib Prep Kits	VAHTS Universal Pro DNA Library Prep Kit for Illumina®	ND608-01/02	24 rxn/96 rxn	458 / 1,817
New ssDNA Lib Prep Kits	VAHTS ssDNA Library Prep Kit for Illumina®	ND620-01/02	24 rxn/96 rxn	*Coming soon.*
MP DNA Lib Prep Kits	VAHTS Mate Pair Library Prep Kit for Illumina®	ND104-01	48 rxn	2,397
Single-Indexed Adapters	VAHTS DNA Adapters Set1 / Set 2 for Illumina®	N801/N802-01/02	10 μl each/40 μl each	184 / 669
	VAHTS DNA Adapters Set 3 - Set 6 for Illumina®	N805/N806/N807/N808	20 μl each	669 each set
Dual-Indexed Adapters	VAHTS Multiplex Oligos Set 4 / Set 5 for Illumina®	N321/N322	192 rxn	1,675 each set
UMI Adapters	VAHTS Dual Index UMI DNA Adapters Set 1 - Set 4 for Illumina®	N331/N332/N333/N334	20 μl each	1,257 each set
Amplicon Lib Prep Kits	VAHTS AmpSeq Library Prep Kit V2	NA201-01/02	24 rxn/96 rxn	1,249 / 4,325
New	VAHTS AmpSeq Library Prep Kit V3	NA210-01/02	24 rxn/96 rxn	1,249 / 4,325
Amplicon Lib Prep Adapters	VAHTS AmpSeq Adapters 1 - 24 for Illumina®	NA111-01/02	12 ×10 rxn	609
	VAHTS AmpSeq Adapters 25 - 96 for Illumina®	NA111-03/04/05	24 ×10 rxn	1,209
Cancer Panels	VAHTS AmpSeq Cancer HotSpot Panel	NA102-01	24 rxn	870

DNA Library Prep (for Ion Torrent®)

Application	Product Name	Cat. No.#	Size	List Price (USD)
Universal DNA Lib Prep Kits	VAHTS Universal DNA Library Prep Kit for Ion Torrent®	ND701-01/02	24 rxn/96 rxn	794 / 2,553
Amplicon Lib Prep Kits	VAHTS AmpSeq Library Prep Kit V2	NA201-01/02	24 rxn/96 rxn	1,249 / 4,325
New	VAHTS AmpSeq Library Prep Kit V3	NA210-01/02	24 rxn/96 rxn	1,249 / 4,325
Amplicon Lib Prep Adapters	VAHTS AmpSeq Adapters 1 - 24 for Ion Torrent®	NA121-01/02	12 ×10 rxn	609
	VAHTS AmpSeq Adapters 25 - 96 for Ion Torrent®	NA121-03/04/05	24 ×10 rxn	1,209

DNA Library Prep (for MGI®) New

Application	Product Name	Cat. No.#	Size	List Price (USD)
Universal DNA Lib Prep Kits	VAHTS Universal DNA Library Prep Kit for MGI®	NDM607-01/02	24 rxn/96 rxn	794 / 2,553
	VAHTS Universal DNA Library Prep Kit for MGI® V5	NDM610-01/02	24 rxn/96 rxn	794 / 2,553
DNA Lib Prep Kits for Enzymatic Fragmentation	VAHTS Universal Plus DNA Library Prep Kit for MGI®	NDM617-01/02	24 rxn/96 rxn	908 / 2,894
FFPE DNA Lib Prep Kits	VAHTS Universal Pro DNA Library Prep Kit for MGI®	NDM608-01/02	24 rxn/96 rxn	833 / 2,778
Single-Indexed Adapters	VAHTS DNA Adapters Set 8 for MGI®	NM108-01/02	10 μl each/40 μl each	1,333 / 5,333
Dual-Indexed UMI Adapters	VAHTS Dual UMI Adapters for MGI®	NM301-01/02	10 μl each/40 μl each	1,997 / 7,997
Circularization Kit	VAHTS Circularization Kit for MGI®	NM201-01/02	16 rxn/48 rxn	499 / 1,997
Amplification Module	VAHTS HiFi Amplification Mix for MGI®	NM616-01/02	24 rxn/96 rxn	85 / 255
Amplicon Lib Prep Kits	VAHTS AmpSeq General Library Prep Kit for MGI®	NAM203-01/02	24 rxn/96 rxn	969 / 3,262

Modules for DNA Library Prep

	Application	Product Name	Cat. No.#	Size	List Price (USD)
	TurePrep Lib Amplification	TruePrep Amplify Enzyme	TD601	96 rxn	145
New	FFPE Repair	VAHTS DNA Damage Repair Kit	N208-01/02	24 rxn/96 rxn	204 / 679
New	Enzymatic Fragmentation	VAHTS Universal Plus Fragmentation Module	N209-01/02	24 rxn/96 rxn	346 / 1,156
	DNA Lib Prep Modules	VAHTS Universal End preparation Module for Illumina®	N203-01/02	24 rxn/96 rxn	179 / 577
		VAHTS Universal Adapter Ligation Module for Illumina®	N204-01/02	24 rxn/96 rxn	287 / 917
		VAHTS HiFi Amplification Mix	N616-01/02	24 rxn/96 rxn	75 /241
	AmpSeq Multi-PCR	VAHTS AmpSeq Multi-PCR Module V2	NA205-01/02	24 rxn/96 rxn	179 / 719
	T4 DNA Polymerase	T4 DNA Polymerase	N101-01	2,000 U	165
	T4 Polynucleotide Kinase	T4 Polynucleotide Kinase	N102-01	10,000 U	169
	T4 DNA Ligase (Rapid)	T4 DNA Ligase (Rapid)	N103-01	600,000 U	581
	Klenow DNA Polymerase	DNA Polymerase I Klenow Fragment	N104-01	5,000 U	329
		DNA Polymerase I Klenow Fragment exo-	N105-01	5,000 U	323
	Phi29 DNA Polymerase	Phi29 MAX DNA Polymerase	N106-01/02	250 U/1,250 U	48 / 206
	Amplification Module	Phanta Uc Super-Fidelity DNA Polymerase for Library Amplification	P507-01/02	100 U/500 U	71 / 301

RNA-Seq

RNA Library Prep (for Illumina®)

	Application	Product Name	Cat. No.#	Size	List Price (USD)
	Total RNA Lib Prep Kits (rRNA Depletion)	VAHTS Total RNA-Seq (H/M/R) Library Prep Kit for Illumina®	NR603-01/02	24 rxn/96 rxn	1,884 / 6,452
HOT	Ultra Fast & Universal RNA Lib Prep Kits	VAHTS Universal V6 RNA-Seq Library Prep Kit for Illumina®	NR604-01/02	24 rxn/96 rxn	799 / 2,685
New		VAHTS Universal V8 RNA-Seq Library Prep Kit for Illumina®	NR605-01/02	24 rxn/96 rxn	799 / 2,685
	Single-Indexed Adapters	VAHTS RNA Adapters Set 1 / Set 2 for Illumina®	N803/N804-01/02	10 μl each/40 μl each	63 / 250
		VAHTS RNA Adapters Set 3 - Set 6 for Illumina®	N809/N810/N811/N812	20 μl each	250 each set
	Dual-Indexed Adapters	VAHTS RNA Multiplex Oligos Set 1 / Set 2 for Illumina®	N323 / N324	192 rxn each	1,219 each set
	Small RNA Lib Prep Kits	VAHTS Small RNA Library Prep Kit for Illumina®	NR801-01/02	24 rxn/96 rxn	1,020 / 3,468
	Small RNA Lib Prep Adapters	VAHTS Small RNA Index Primer Kit for Illumina®	N813/N814/N815/N816	48 rxn each	145 each set

RNA Library Prep (for MGI®) New

Application	Product Name	Cat. No.#	Size	List Price (USD)
Non-Stranded mRNA Lib Prep Kits	VAHTS mRNA-Seq V3 Library Prep Kit for MGI®	NRM611-01/02	24 rxn/96 rxn	1,529 / 4,936
Total RNA Lib Prep Kits (rRNA Depletion)	VAHTS Total RNA-Seq (H/M/R) Library Prep Kit for MGI®	NRM603-01/02	24 rxn/96 rxn	3,333 / 10,780
Ultra Fast & Universal RNA Lib Prep Kits	VAHTS Universal V6 RNA-Seq Library Prep Kit for MGI®	NRM604-01/02	24 rxn/96 rxn	1,674 / 5,390
	VAHTS Universal V8 RNA-Seq Library Prep Kit for MGI®	NRM605-01/02	24 rxn/96 rxn	1,674 / 5,390
Single-Indexed Adapters	VAHTS RNA Adapters Set 8 for MGI®	NM208-01/02	10 μl each/40 μl each	444 / 1,777

Modules for RNA Library Prep

	Application	Product Name	Cat. No.#	Size	List Price (USD)
	mRNA Capture Beads	VAHTS mRNA Capture Beads	N401-01/02	24 rxn/96 rxn	54 / 194
	RNA Fragmentation	VATHS 2 × Frag / Prime Buffer	N402-01	96 rxn	130
HOT	rRNA Depletion Kits	Ribo-off rRNA Depletion Kit (Human / Mouse / Rat)	N406-01/02	24 rxn / 96 rxn	957 / 3,456
		Ribo-off rRNA Depletion Kit (Bacteria)	N407-01/02	12 rxn / 24 rxn	777 / 1,442
New		Ribo-off rRNA Depletion Kit (Plant)	N409-01/02	12 rxn / 24 rxn	877 / 1,630

Epigenetics

Application	Product Name	Cat. No.#	Size	List Price (USD)
Methylation Bisulfite Kit	EpiArt DNA Methylation Bisulfite Kit	EM101-01/02	50 rxn/200 rxn	177 / 638
Amplification Kit	2 × EpiArt HS Taq Master Mix	EM201-01/02/03	1 ml/5 ml/15 ml	57 / 255 / 680
	2 × EpiArt HS Taq Master Mix (Dye Plus)	EM202-01/02/03	1 ml/5 ml/15 ml	57 / 255 / 680
Methylation Lib Prep Kit	EpiArt DNA Methylation Library Kit	NE101-01/02	24 rxn/96 rxn	989 / 3,546
pG/pA-Tn5 for CUT&Tag	Hyperactive pG-Tn5 Transposase for CUT&Tag	S602-01/02	10 ug/20 ug	*Please inquire.*
	Hyperactive pA-Tn5 Transposase for CUT&Tag	S603-01/02	10 ug/20 ug	*Please inquire.*
HOT pG/pA-Tn5 for CUT&Tag (Pre-loaded with Adapters)	Hyperactive pG-Tn5 Transposon for Illumina (4 μM)	S612-01/02	10 ug/20 ug	1,245 / 1,997
	Hyperactive pA-Tn5 Transposon for Illumina (4 μM)	S613-01/02	10 ug/20 ug	1,245 / 1,997
HOT CUT&Tag Lib Prep Kit (Pre-loaded with Adapters)	Hyperactive In-Situ ChIP Library Prep Kit for Illumina (pG-Tn5)	TD901-01/02	12 rxn/48 rxn	1,124 / 4,215
	Hyperactive In-Situ ChIP Library Prep Kit for Illumina (pA-Tn5)	TD902-01/02	12 rxn/48 rxn	1,124 / 4,215
CUT&RUN	Hyperactive pA-MNase for CUT&RUN	S701-01/02	10 ug/20 ug	709 / 1,362

Single Cell-Seq

Application	Product Name	Cat. No.#	Size	List Price (USD)
Single Cell WGA	Discover-sc Single Cell Kit	N601-01/02	24 rxn/96 rxn	365 / 1,236
	Discover-sc Single Cell WGA Kit	N603-01/02	24 rxn/96 rxn	365 / 1,236
Single Cell WTA	Single Cell Full Length mRNA-Amplication Kit	N712-01/02/03	12 rxn/24 rxn/96 rxn	441 / 793 / 1,869

Beads & Library Quantification

Application	Product Name	Cat. No.#	Size	List Price (USD)
HOT DNA Clean-up & Size-Selection	VAHTS DNA Clean Beads	N411-01/02/03	5 ml/60 ml/450 ml	145 / 538 / 3,067
RNA Clean-up	VAHTS RNA Clean Beads	N412-01/02/03	5 ml/40 ml/450 ml	174 / 393 / 4,953
Library Quantification Kits	VAHTS Library Quantification Kit for Illumina®	NQ101/102/103/104	500 rxn	239
	DNA Standard 1-6	NQ105	8 rxn	326
	Library Dilution Buffer	NQ106	50 ml	72
New Equalbit Assay Kits	Equalbit dsDNA HS Assay Kit	EQ111-01/02	100 / 500 assays	99 / 299
	Equalbit 1x dsDNA HS Assay Kit	EQ121-01/02	100 / 500 assays	93 / 275
	Equalbit RNA HS Assay Kit	EQ211-01/02	100 / 500 assays	129 / 360
	Equalbit RNA BR Assay Kit	EQ212-01/02	100 / 500 assays	129 / 360

cfDNA

Application	Product Name	Cat. No.#	Size	List Price (USD)
cfDNA Preservation	VAHTS Blood Collection Tube for Cell-Free DNA Preservation	N901	10 ml tube	7.5
cfDNA Isolation	VAHTS Serum / Plasma Circulating DNA Kit	N902-01/02	50 rxn / 200 rxn	217 / 780

TruePrep DNA Library Prep Kit V2 for Illumina (**Vazyme, #TD501/502/503**)

Transposase (Tn5)-based Ultra-Fast DNA Library Prep Kit

- **Easy to Use** One-step enzymatic reaction.
- **Ultra-Fast** Library prep within **90 min**.
- **Versatile** Applicable for genomic DNA, single cell-seq, and epigenetics (i.e. ATAC-Seq).
- **Reliable** Optimized polymerase and buffer to achieve high efficiency and uniformity.

VAHTS Universal Plus DNA Library Prep Kit for Illumina (**Vazyme, #ND617**)

DNA Library Prep Kit with Enzymatic Fragmentation

- **Universal** Applicable for 100 pg - 1 μg of input DNA from many species.
- **Easy** Enzymatic fragmentation with no need for physical shearing / sonication.
- **Time-Saving** Fragmentation, end repair, dA-tailing are performed in one step.
- **Reliable** Generate high-quality DNA libraries with high yields.

VAHTS Universal V6 RNA-seq Library Prep Kit for Illumina (**Vazyme #NR604**)

Fast & Effective RNA Library Prep Kit

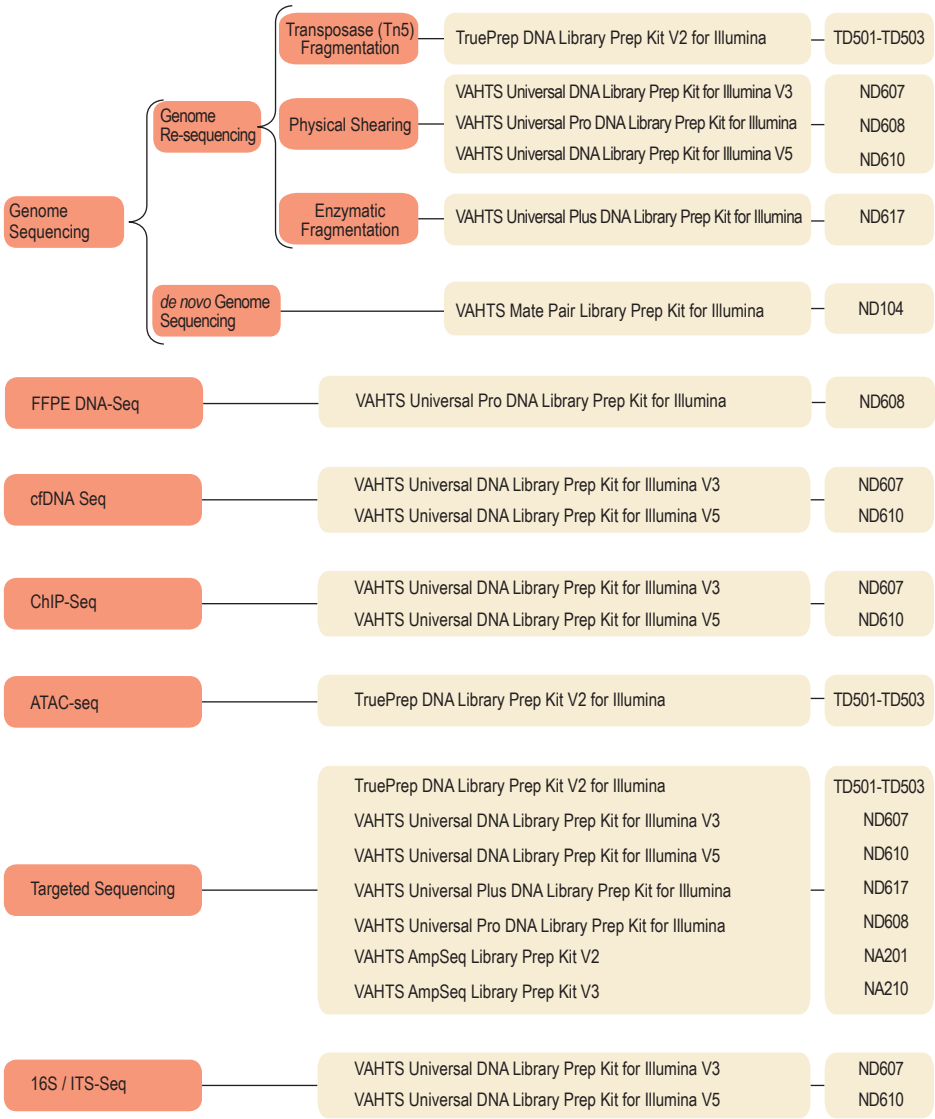
- **Fast** The 2nd strand cDNA synthesis, end-repair, and dA-Tailing in one reaction! High-quality library prepared from enriched RNA within **4 hours**.
- **Flexible** Compatible with a variety of RNA enrichment modules.
- **Universal** Options for the preparation of stranded or non-stranded RNA-Seq libraries.

Hyperactive In-Situ ChIP Library Prep Kit for Illumina (pG/pA-Tn5) **(Vazyme, #TD901/902)**

An revolutionary technology that can replace CUT&RUN and ChIP-Seq.

- **Easy to Operate** DNA tagmentation and adapters ligation in one step. Sequencing-ready libraries can be generated from live cells within only **9 hours**.
- **Hyperactive** pG/A & Tn5 transposase with hyper activity results in high efficiency of DNA tagmentation.
- **Low Input** Starting from 60 cells or even single cells.
- **High Purity** Proteins with high purity and extra low residual amount of nucleic acid.

DNA-Seq Library Prep for Illumina®



DNA-Seq Library Prep for MGI®

Genome Re-Sequencing	Physical Shearing	VAHTS Universal DNA Library Prep Kit for MGI	NDM607
		VAHTS Universal Pro DNA Library Prep Kit for MGI	NDM608
		VAHTS Universal DNA Library Prep Kit for MGI V5	NDM610
	Enzymatic Fragmentation	VAHTS Universal Plus DNA Library Prep Kit for MGI	NDM617
FFPE DNA-Seq		VAHTS Universal Pro DNA Library Prep Kit for MGI	NDM608
cfDNA Seq		VAHTS Universal DNA Library Prep Kit for MGI	NDM607
		VAHTS Universal DNA Library Prep Kit for MGI V5	NDM610
ChIP-Seq		VAHTS Universal DNA Library Prep Kit for MGI	NDM607
		VAHTS Universal DNA Library Prep Kit for MGI V5	NDM610
Targeted Sequencing		VAHTS Universal DNA Library Prep Kit for MGI	NDM607
		VAHTS Universal DNA Library Prep Kit for MGI V5	NDM610
		VAHTS Universal Plus DNA Library Prep Kit for MGI	NDM617
		VAHTS Universal Pro DNA Library Prep Kit for MGI	NDM608
		VAHTS AmpSeq General Library Prep Kit for MGI	NAM203
16S / ITS-Seq		VAHTS Universal DNA Library Prep Kit for MGI	NDM607
		VAHTS Universal DNA Library Prep Kit for MGI V5	NDM610

TruePrep DNA Library Prep (Transposase-based)

TruePrep DNA Library Prep Kit V2 for Illumina® (#TD501, #TD502, #TD503)

Rapid & Easy

Time-Saving: Library prepared within **90 min**.

Easy-to-Use: one-step enzymatic reaction, no need for physical shearing / sonication.

High Adaptability to Input DNA

Applicable for genomic DNA, cDNA, and amplicons from multiple species.

Input DNA: **1 ng - 50 ng**.

High Amplification Uniformity

Optimized polymerase and buffer to achieve high efficiency and uniformity in library amplification.

Selected Product Citations of TruePrep Kits (#TD501, #TD502, #TD503)

Wang J, et al. Asymmetric expression of LincGET biases cell fate in two-cell mouse embryos. ***Cell***, 2018, 175(7):18871-1901.

Han X, *et al*. Mapping the Mouse Cell Atlas by Microwell-Seq. ***Cell***, 2018, 172(5):1091-107.

Zhang L, et al. Lineage tracking reveals dynamic relationships of T cells in colorectal cancer. ***Nature***, 2018, 564(7735):268-72.

Wu J, *et al*. Chromatin analysis in human early development reveals epigenetic transition during ZGA. ***Nature***, 2018, 557(7704):256-60.

Zheng C, *et al*. Landscape of Infiltrating T Cells in Liver Cancer Revealed by Single-Cell Sequencing. ***Cell***, 2017, 169(7):1342-56.

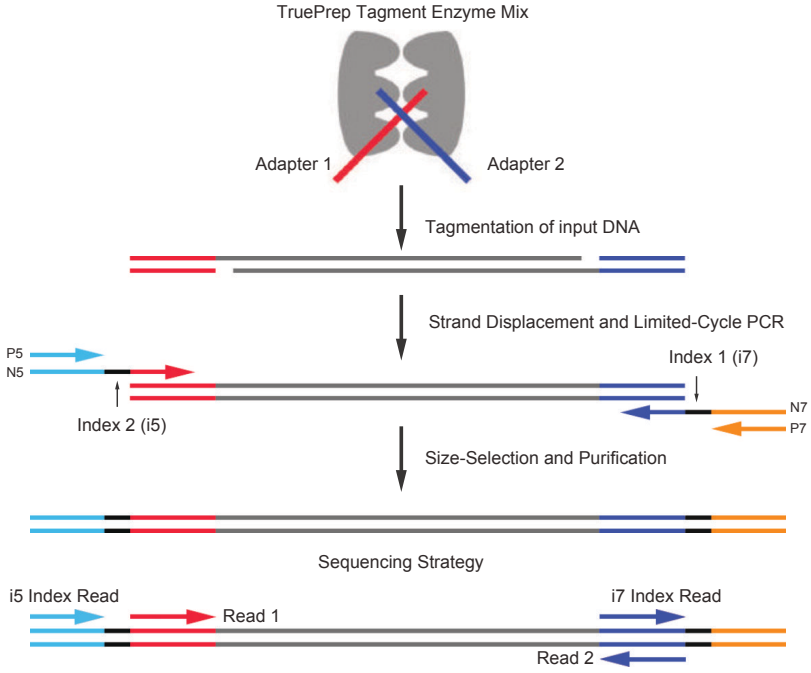
Huang X, *et al*. Genomic architecture of heterosis for yield traits in rice. ***Nature***, 2016, 537(7622):629-33.

Wu J, *et al*. The landscape of accessible chromatin in mammalian preimplantation embryos. ***Nature***, 2016, 534(7609):652-7.

Guo X, et al. Global characterization of T cells in non-small-cell lung cancer by single-cell sequencing. ***Nature Medicine***, 2018, 24(7):978-85.

Mechanism of TruePrep DNA Library Prep

TruePrep Tagment Enzyme Mix (TTE Mix) contains transposase and two kinds of adapters (Adapter 1 and Adapter 2) with equal molar. Input DNA are fragmented and linked with adapters on both ends just by mixing with TTE Mix, followed by a 10-minute incubation at 55°C. The tagged DNA fragments can be further amplified with two pairs of primers N5 (N5XX) / N7 (N7XX) and P5 / P7 (PCR Primer Mix, PPM). After size selection and clean-up, the library is ready for sequencing on Illumina platforms.



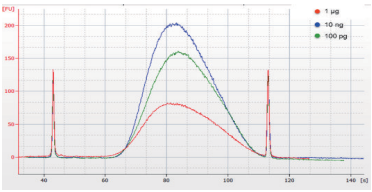
Adapter 1 and Adapter 2, two oligos embedded in TruePrep Tagment Enzyme
P5 and P7, two universal PCR Primers
N5 and N7, two index primers containing index 2 (i5) and index 1 (i7) respectively

Index 2 (i5) 5'-AATGATACGGCGACCACCGAGATCTACACIIIIIIIITCGTCGGCAGCGTCAGATGTGTATAAGAGACAG-NNNNNN-CTGTCTCTTATACACATCTCCGAGCCCACGAGACIIIIIIIIATCTCGTATGCCGTCTTCTGCTTG-3' Index 1 (i7)
IIIIIIII: Index 2 (i5), 8 bases IIIIIIII: Index 1 (i7), 8 bases -NNNNNN-: insert sequence

VAHTS Universal Plus DNA Library Prep Kit for Illumina® (#ND617) (for Enzymatic Fragmentation)

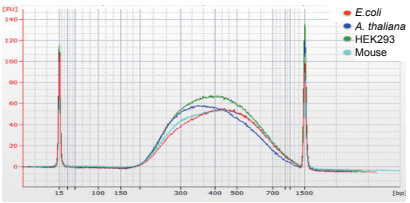
Universal	Applicable for 100 pg-1 μg of input DNA (e.g. genomic DNA, FFPE DNA) from many species.
Easy	Enzymatic fragmentation with a single protocol, with no need for physical shearing / sonication.
Time-Saving	Fragmentation, end repair, dA-tailing are performed in one step. No clean-ups needed before adapter ligation.
Reliable	Generate high-quality DNA libraries with high yields.

1. Broad Input Amount Compatibility

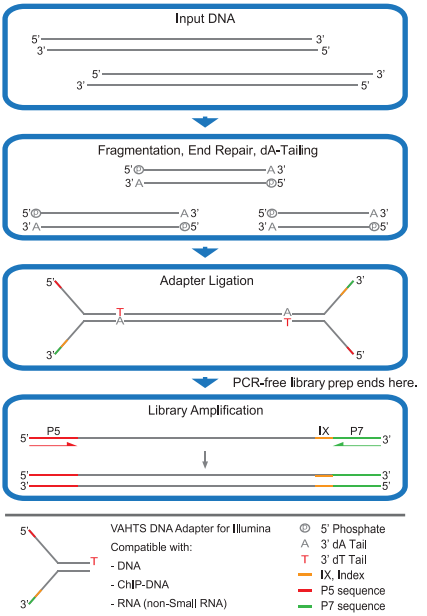


Size distribution of library fragments constructed with different DNA input. For different input mounts of salmon sperm gDNA (100 pg, 10 ng, 1 ug, respectively) with the same fragmentation time, the size distribution of these libraries were identical.

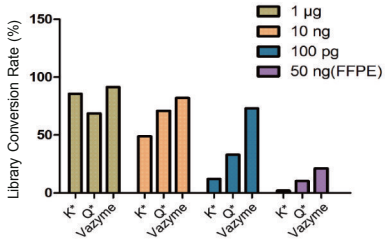
2. Extensive Species Compatibility



Size distribution of library fragments constructed by gDNA of different species. For the same input of 100 ng, the size distribution of these libraries from different species were identical.

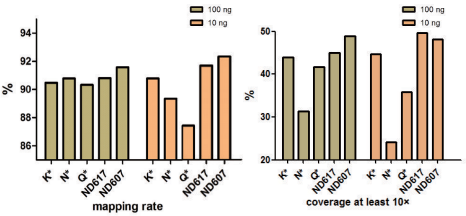


3. Excellent Library Conversion Rate



Comparison of library conversion rates. For different input amount of gDNA libraries, Vazyme #ND617 has a higher library conversion rate than that of other competitors.

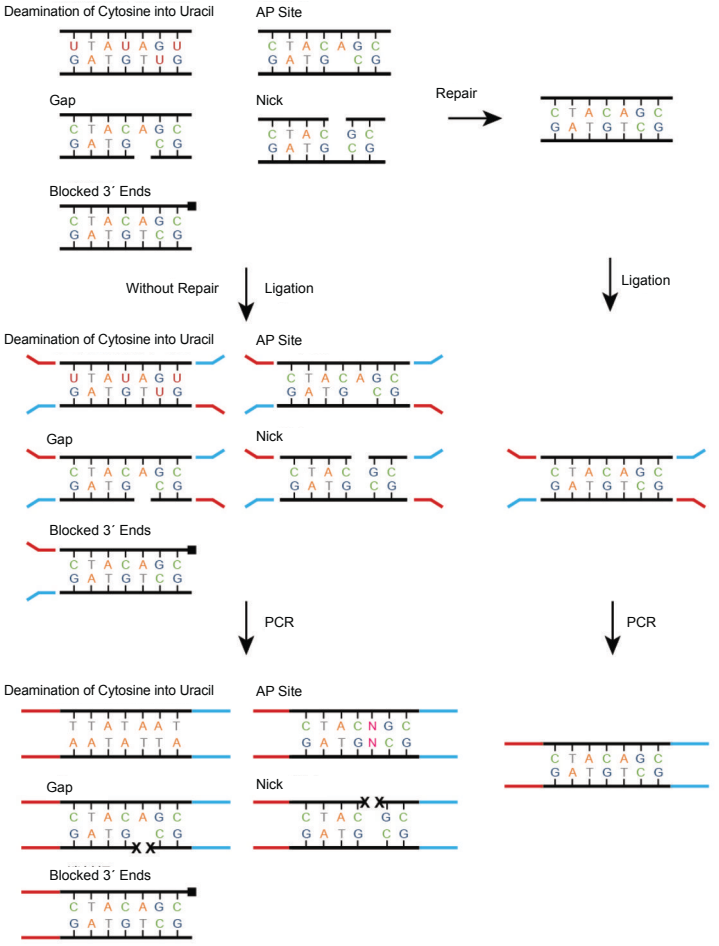
4. High Sequencing Data Quality



Comparison of sequencing data quality. The Arabidopsis thaliana gDNA library constructed using Vazyme ND617, followed by sequencing on Hiseq X10 PE150.

Mechanism of FFPE DNA Library Prep

VAHTS Universal Pro DNA Library Prep Kit for Illumina (Vazyme, #ND608) is specially designed for library preparation from 100 pg - 1 μg of input DNA for NGS on Illumina® platforms. This kit contains a DNA damage repair module that can effectively repair DNA damage caused by formalin-fixed paraffin-embedded (FFPE), including deamination of cytosine, nicks and gaps, oxidized bases, blocked 3′ ends, compatible with common DNA samples without affecting the quality of normal DNA sample libraries. The overall optimization of the module of end-repair, ligation and library amplification leads to excellent library conversion rate and amplification output. It is widely applicable to PCR or PCR-Free library construction of multiple samples, and is compatible with targeted capture process.



DNA Library Prep without or with DNA Damage Repair

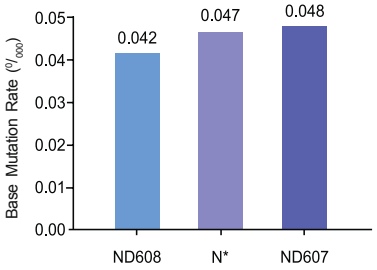
VAHTS Universal Pro DNA Library Prep Kit for Illumina® (#ND608)

Repairable Types of DNA Damage

Types of DNA Damage in FFPE Samples	Deamination of Cytosine into Uracil	Nicks & Gaps	Oxidized Bases	Blocked 3´ Ends	DNA Fragmentation	DNA-Protein Crosslinks
Whether Can Be Repaired by #ND608	YES	YES	YES	YES	NO	NO

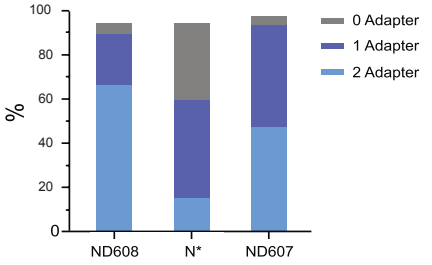
Validation Data

1. Efficient Repair of Base Damage



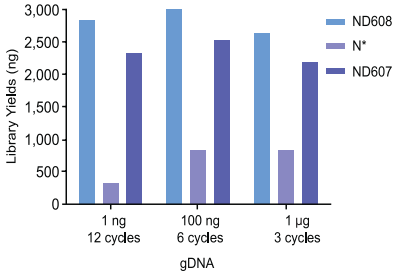
The DNA Repair Module of the ND608 has the ability to repair base damage efficiently, significantly reducing the number of base aberrant mutations introduced during FFPE sample preparation and storage.

2. Efficient Library Conversion



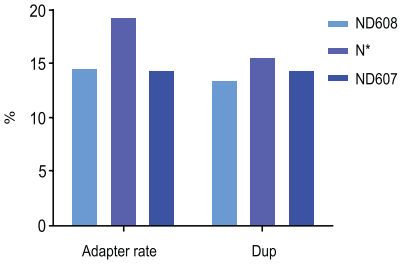
The library conversion rate of ND608 is higher than that of N company and VAHTS Universal Plus DNA Library Prep Kit for Illumina (Vazyme, #ND607, without FFPE repair module), and the library conversion rate is as high as 67%.*

3. Excellent Library amplification Efficiency



For amplification, the yield of the library constructed by ND608 is increased by 3-9 times compared with other kits under the same cycle number; the number of cycles required for competing products is reduced by 2-3 cycles under the same yield.

4. Excellent Raw Data Quality



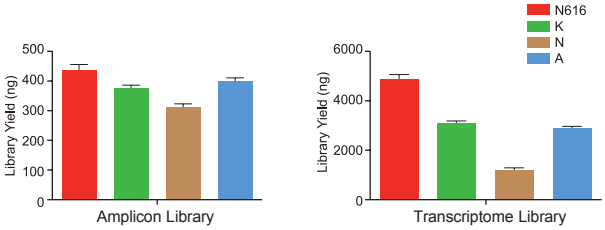
ND608 can effectively improve the data quality of samples, with lower Adapter rate and Duplication rate.

→ VAHTS Universal DNA Library Prep Kit for Illumina® V3 (#ND607) (for physical fragmentation)

Time-Saving	Library prepared within **75 min**.
High Adaptability to Input Amount	Effective library preparation from **100 pg - 4 μg** of Input DNA.
Applicable to Most Samples	Genomic DNA, cfDNA, ctDNA, FFPE DNA, ChIP DNA, and Amplicons.
Excellent Adapter Ligation Efficiency	Suitable for library preparation with PCR or PCR-free.

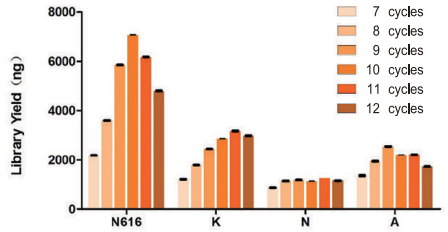
→ VAHTS HiFi Amplification Mix (#N616)

Excellent Template Adaptability



The amplification performance of VAHTS HiFi Amplification Mix (Vazyme, #N616) in multiple samples is significantly better than that of competitors. Amplicon library (80 ng) and transcriptome library (5 ng) was used as template and amplified for 4 and 13 cycles, respectively. The library concentrations were determined by Qubit.

Super High Plateau of Amplification



The amplification plateau of VAHTS HiFi Amplification Mix (Vazyme, #N616) can reach 7 μg, which is significantly superior to that of competitors. Fragmented DNA (50 ng, approximately 350 bp) was ligated with adapters and then amplified. The library concentrations were determined by Qubit.

RNA-Seq Library Prep for Illumina®

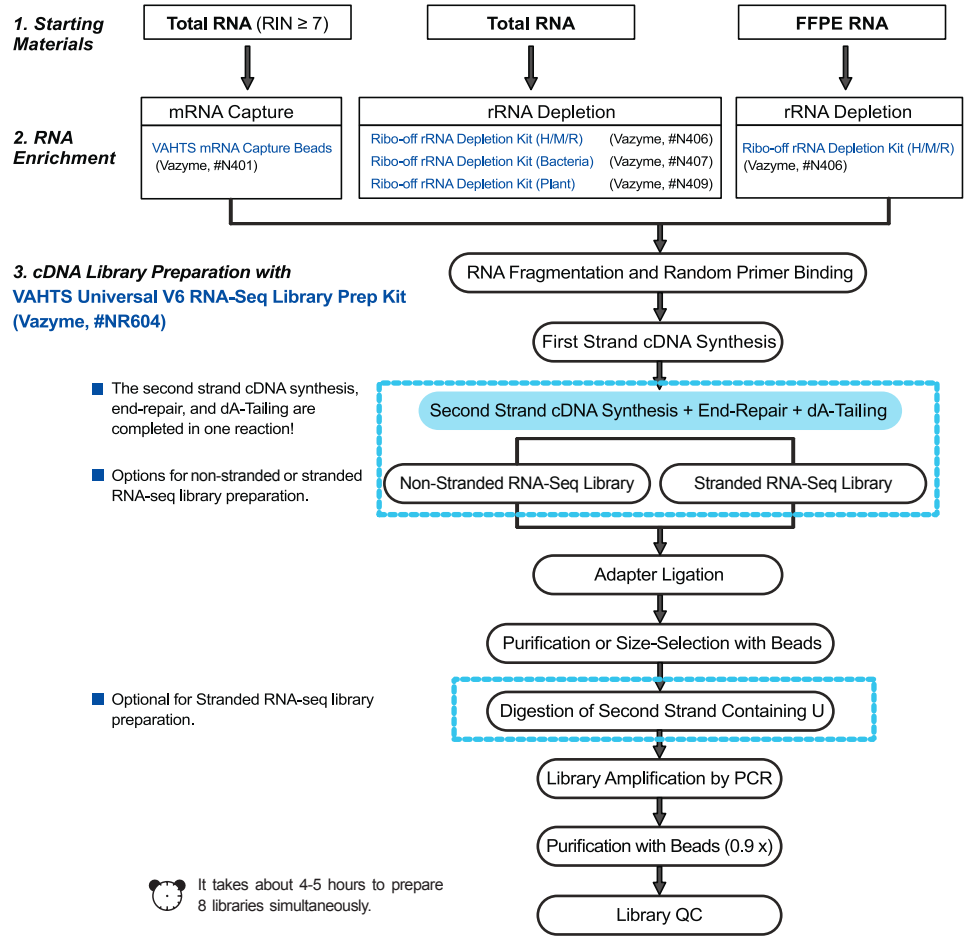
Ultra Fast & Universal RNA-Seq	Kit	VAHTS Universal V6 RNA-seq Library Prep Kit for Illumina VAHTS Universal V8 RNA-seq Library Prep Kit for Illumina	NR604 NR605
	Adapter	VAHTS RNA Adapters Set 1-Set 6 for Illumina VAHTS RNA Multiplex Oligos Set 1-Set 2 for Illumina	N803/N804 & N809-N812 N323/N324
	Module	VAHTS mRNA Capture Beads Ribo-off rRNA Depletion Kit (Human/Mouse/Rat) Ribo-off rRNA Depletion Kit (Bacteria) Ribo-off rRNA Depletion Kit (Plant)	N401 N406 N407 N409
Non-Stranded mRNA-Seq	Kit	VAHTS Universal V6 RNA-seq Library Prep Kit for Illumina VAHTS Universal V8 RNA-seq Library Prep Kit for Illumina	NR604 NR605
	Adapter	VAHTS RNA Adapters Set 1-Set 6 for Illumina VAHTS RNA Multiplex Oligos Set 1-Set 2 for Illumina	N803/N804 & N809-N812 N323/N324
	Module	VAHTS mRNA Capture Beads	N401
Stranded mRNA-Seq	Kit	VAHTS Universal V6 RNA-seq Library Prep Kit for Illumina VAHTS Universal V8 RNA-seq Library Prep Kit for Illumina	NR604 NR605
	Adapter	VAHTS RNA Adapters Set 1-Set 6 for Illumina VAHTS RNA Multiplex Oligos Set 1-Set 2 for Illumina	N803/N804 & N809-N812 N323/N324
	Module	VAHTS mRNA Capture Beads	N401
Total RNA-Seq (rRNA Depletion)	Kit	VAHTS Total RNA-Seq (H/M/R)Library Prep Kit for Illumina VAHTS Universal V6 RNA-seq Library Prep Kit for Illumina VAHTS Universal V8 RNA-seq Library Prep Kit for Illumina	NR603 NR604 NR605
	Adapter	VAHTS RNA Adapters Set 1-Set 6 for Illumina VAHTS RNA Multiplex Oligos Set 1-Set 2 for Illumina	N803/N804 & N809-N812 N323/N324
	Module	Ribo-off rRNA Depletion Kit (Human/Mouse/Rat) Ribo-off rRNA Depletion Kit (Bacteria) Ribo-off rRNA Depletion Kit (Plant)	N406 N407 N409
Small RNA-Seq	Kit	VAHTS Small RNA Library Prep Kit for Illumina	NR801
	Adapter	VAHTS Small RNA Index Primer Kit for Illumina	N813-N816

RNA-Seq Library Prep for MGI®

Ultra Fast & Universal RNA-Seq	Kit	VAHTS Universal V6 RNA-seq Library Prep Kit for MGI VAHTS Universal V8 RNA-seq Library Prep Kit for MGI	NRM604 NRM605
	Adapter	VAHTS RNA Adapters Set 8 for MGI	NM208
	Module	VAHTS mRNA Capture Beads Ribo-off rRNA Depletion Kit (Human/Mouse/Rat) Ribo-off rRNA Depletion Kit (Bacteria) Ribo-off rRNA Depletion Kit (Plant)	N401 N406 N407 N409
Non-Stranded mRNA-Seq	Kit	VAHTS Universal V6 RNA-seq Library Prep Kit for MGI VAHTS Universal V8 RNA-seq Library Prep Kit for MGI	NRM604 NRM605
	Adapter	VAHTS RNA Adapters Set 8 for MGI	NM208
	Module	VAHTS mRNA Capture Beads	N401
Stranded mRNA-Seq	Kit	VAHTS Universal V6 RNA-seq Library Prep Kit for MGI VAHTS Universal V8 RNA-seq Library Prep Kit for MGI	NRM604 NRM605
	Adapter	VAHTS RNA Adapters Set 8 for MGI	NM208
	Module	VAHTS mRNA Capture Beads	N401
Total RNA-Seq (rRNA Depletion)	Kit	VAHTS Total RNA-Seq (H/M/R)Library Prep Kit for MGI VAHTS Universal V6 RNA-seq Library Prep Kit for MGI VAHTS Universal V8 RNA-seq Library Prep Kit for MGI	NRM603 NRM604 NRM605
	Adapter	VAHTS RNA Adapters Set 8 for MGI	NM208
	Module	Ribo-off rRNA Depletion Kit (Human/Mouse/Rat) Ribo-off rRNA Depletion Kit (Bacteria) Ribo-off rRNA Depletion Kit (Plant)	N406 N407 N409

Solutions of RNA-Seq Library Preparation

VAHTS Universal V6 RNA-seq Library Prep Kit for Illumina® (Vazyme, #NR604) is specially designed for the preparation of transcriptome libraries for NGS platforms of Illumina®. This kit combines 2nd Strand cDNA synthesis, end-repair, and dA-Tailing into one step, with no need of clean-ups, which greatly simplifies the process of library construction and shortens the operation time. The kit also can be used for non-stranded or stranded transcriptome analysis.



Mechanism of VAHTS Universal V6 RNA-seq Library Prep Kit for Illumina® (Vazyme, #NR604)

VAHTS Universal V6 RNA-seq Library Prep Kit for Illumina® (#NR604)

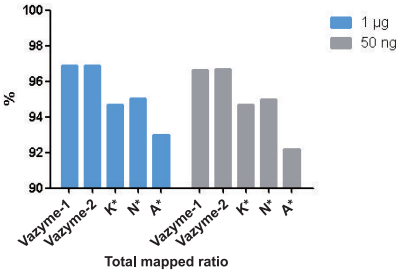
Fast The second strand cDNA synthesis, end-repair, and dA-Tailing are completed in one reaction! High-quality library prepared from enriched RNA within **4 hours**.

Flexible Compatible with a variety of RNA enrichment modules.

Universal Options for the preparation of stranded or non-stranded RNA-Seq libraries.

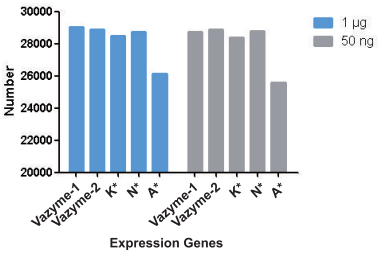
Validation Data

1. High Mapped Rate



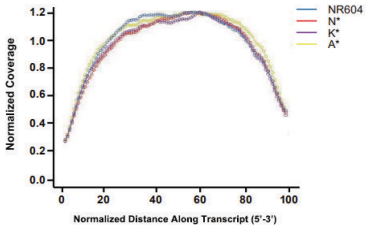
Compared with several similar kits, Vazyme, #NR604 performed better in mapped ratio.

2. High Gene Detection Number



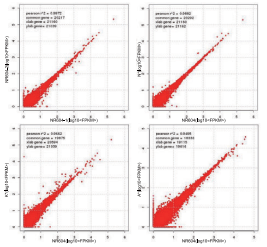
Compared with several similar kits on the market, Vazyme, #NR604 showed higher gene detection number.

3. Excellent Uniformity



The data of library prepared using Vazyme, #NR604 was evenly distributed, with no 5'- or 3'- preference, and is highly consistent with several similar kits.

4. High Expression Repeat Correlation



The correlation coefficient r^2 between Vazyme, #NR604 and several similar kits on the market is higher than 0.94.

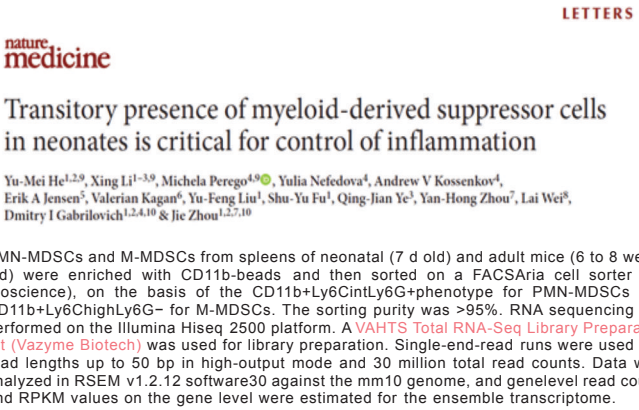
Total RNA-Seq Library Prep

VAHTS Total RNA-seq (H/M/R) Library Prep Kit for Illumina® (#NR603)

Extensive Species Compatibility	Compatible with human, mouse, rat, and many other species.
High rRNA Removal Efficiency	rRNA removal efficiency up to 99.9%.
Low Template Input Amount	As low input as 100 ng total RNA.
Optimized Fragmentation & Size-Selection	Provides fragmentation and size selection solutions for four different fragments.

Selected Product Citations

He Y, et al. Transitory presence of myeloid-derived suppressor cells in neonates is critical for control of inflammation. ***Nature Medicine***, 2018, 24(2):224-31.



LETTERS

nature medicine

Transitory presence of myeloid-derived suppressor cells in neonates is critical for control of inflammation

Yu-Mei He[1,2,9], Xing Li[1–3,9], Michela Perego[4,9], Yulia Nefedova[4], Andrew V Kossenkov[4], Erik A Jensen[5], Valerian Kagan[6], Yu-Feng Liu[1], Shu-Yu Fu[1], Qing-Jian Ye[3], Yan-Hong Zhou[7], Lai Wei[8], Dmitry I Gabrilovich[1,2,4,10] & Jie Zhou[1,2,7,10]

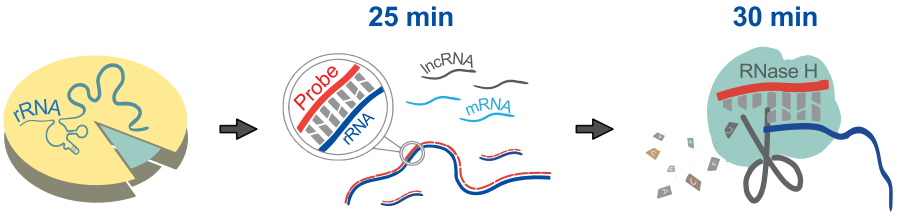
PMN-MDSCs and M-MDSCs from spleens of neonatal (7 d old) and adult mice (6 to 8 weeks old) were enriched with CD11b-beads and then sorted on a FACSAria cell sorter (BD Bioscience), on the basis of the CD11b+Ly6CintLy6G+phenotype for PMN-MDSCs and CD11b+Ly6ChighLy6G− for M-MDSCs. The sorting purity was >95%. RNA sequencing was performed on the Illumina Hiseq 2500 platform. A VAHTS Total RNA-Seq Library Preparation Kit (Vazyme Biotech) was used for library preparation. Single-end-read runs were used with read lengths up to 50 bp in high-output mode and 30 million total read counts. Data were analyzed in RSEM v1.2.12 software30 against the mm10 genome, and genelevel read counts and RPKM values on the gene level were estimated for the ensemble transcriptome.

Ribo-off rRNA Depletion Kits

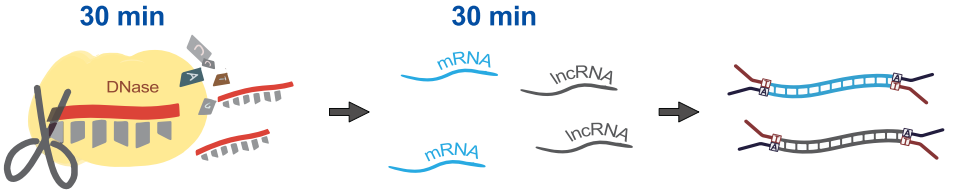
Ribo-off Modules	Cat#	In-put Total RNA	Species
Ribo-off rRNA Depletion Kit (H/M/R)	#N406	50 ng - 1 μg	Human, mouse, rat, etc.*
Ribo-off rRNA Depletion Kit (Bacteria)	#N407	1 μg - 5 μg	Bacteria.
Ribo-off rRNA Depletion Kit (Plant)	#N409	1 μg - 5 μg	Plants.

* Validated species of #N406: human, mouse, rat, cattle, dog, horse, chicken, monkey, pig, zebrafish, etc.

Complete rRNA removal within 2 hours.



1. rRNA (> 80% of total RNA).
2. rRNA probe hybridization.
3. RNase H digestion to remove rRNA.



4. DNase I digestion to remove probes.
5. mRNA / lncRNA enriched after rRNA removal.
6. Library preparation for RNA-seq.

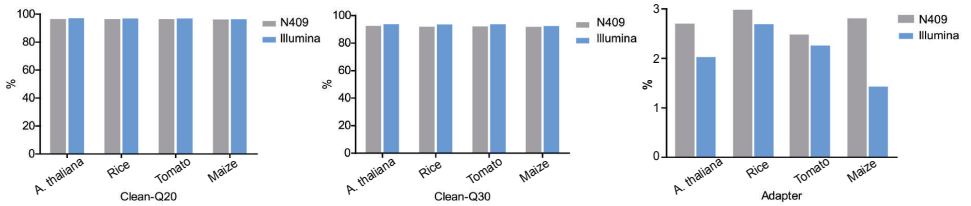
Ribo-off rRNA Depletion Kit (Plant) (#N409)

Extensive Species Compatibility	Compatible with Arabidopsis, cotton, corn, soybean, rice, tomato, peanut, apple, wheat, Selaginella, Cuscuta, etc.
High rRNA Removal Efficiency	Effective removal of cytoplasmic rRNA, mitochondrial rRNA, and chloroplast rRNA.
Wide Range of Input Compatibility	1 μg - 5 μg total RNA.
Easy & Fast Procedures	Using with #NR604, library preparation and quality control can be completed within one day.

Validation Data

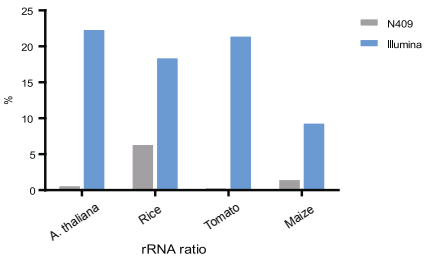
The transcriptome libraries of Arabidopsis thaliana, rice, tomato, and maize were prepared using Vazyme, #N409 and RNA-Seq library prep kit, respectively. The quality-controlled libraries were sequenced using an Illumina Hiseq X10 platform for PE150 sequencing. High-quality clean reads obtained from the raw data was analyzed.

1. Excellent Data Quality



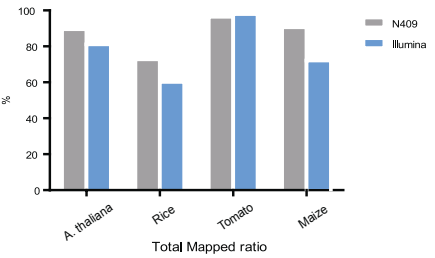
Compared with several similar kits on the market, Vazyme, #NR604 showed higher gene detection number.

2. High rRNA Removal Efficiency



For different species, N409 can effectively remove rRNA and minimize the waste of data caused by rRNA residues.

3. High Mapped Ratio



The data obtained by sequencing the library prepared using Vazyme, #N409 and RNA-Seq library prep kit showed high mapped ratio.

Library Prep for Epigenetics

Bisulfite Sequencing	EpiArt DNA Methylation Bisulfite Kit	EM101
	2 × EpiArt HS Taq Master Mix	EM201
	2 × EpiArt HS Taq Master Mix (Dye Plus)	EM202
	EpiArt DNA Methylation Library Kit	NE101
CUT&Tag	Hyperactive pG-Tn5 Transposase for CUT&Tag	S602
	Hyperactive pA-Tn5 Transposase for CUT&Tag	S603
	Hyperactive pG-Tn5 Transposon for Illumina (4 μM)	S612
	Hyperactive pA-Tn5 Transposon for Illumina (4 μM)	S613
	Hyperactive In-Situ ChIP Library Prep Kit for Illumina(pG-Tn5)	TD901
	Hyperactive In-Situ ChIP Library Prep Kit for Illumina(pA-Tn5)	TD902
CUT&RUN	Hyperactive pA-MNase for CUT&RUN	S701

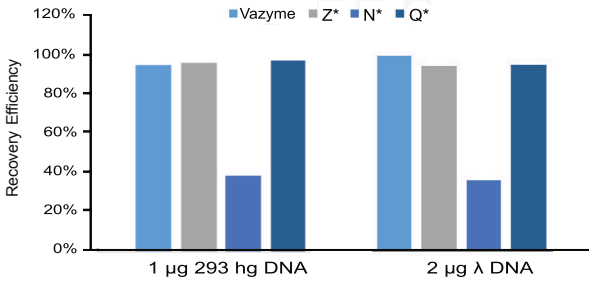
Methylation Bisulfite Kit

EpiArt DNA Methylation Bisulfite Kit (#EM101)

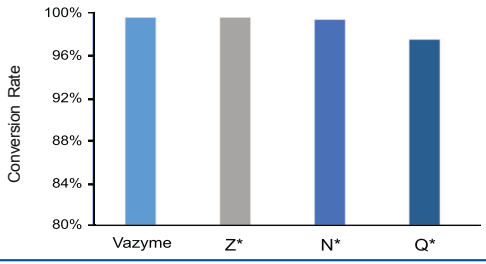
Short Operating Time	Combines DNA denaturation and bisulfite conversion into one step, and the conversion reaction time is only 140 min.
High Conversion Efficiency	Compatible with 100 pg-2 μg of input genomic DNA. The recovery efficiency is ≥ 80% and the unmethylated cytosine conversion efficiency is ≥ 99%.
Wide Range of Compatibility	Efficient conversion of DNA, cfDNA, and purified PCR products from animals, plants, and microorganisms.
Suitable for Many Downstream Applications	The bisulfite converted product is suitable for downstream applications such as PCR amplification and NGS sequencing.

Validation Data

1. High Recovery Efficiency

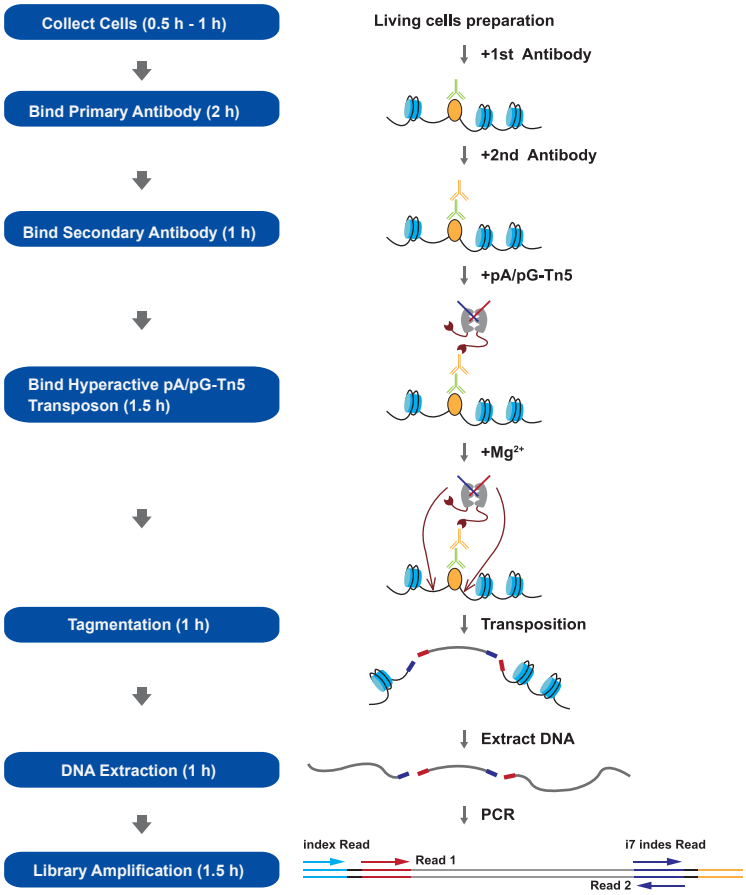


2. High Conversion Efficiency



CUT&Tag

Cleavage Under Targets and Tagmentation (CUT&Tag) is a specific technology designed for the study of protein-genomic interaction that can seamlessly replace the traditional ChIP-Seq. Compared with ChIP-Seq, the CUT&Tag has several significant advantages, including high signal-to-noise ratio, excellent repeatability, short operation time (generate sequencing-ready libraries beginning with live cells within one day), and low cell input. This technology will facilitates the research in epigenetics, tumors, and stem cells.



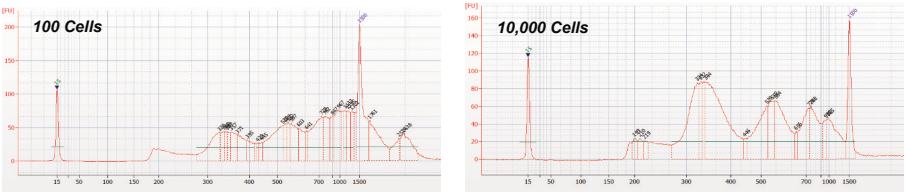
Workflow of CUT&Tag

Hyperactive In-Situ ChIP Library Prep Kit for Illumina (pG-Tn5/pA-Tn5) (#TD901 / #TD902)

Easy to Operate	DNA tagmentation and adapters ligation can be achieved in one step.
Low Input Amount	Starting from 60 cells or even single cells.
Hyperactive	Protein G/A & Tn5 transposase with hyper activity results in high efficiency of DNA tagmentation.
High S/N Ratio	Higher signal-to-noise ratio than ChIP-Seq.
Excellent Reproducibility	Good reproducibility among sample replicates.
Time-Saving	Sequencing-ready libraries can be generated from live cells within **only 9 hours**.

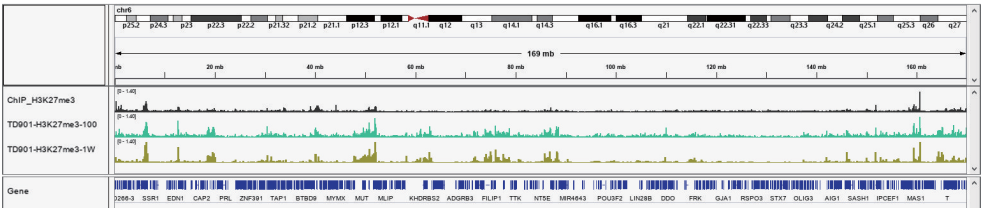
Validation Data

1. Low Input Amount of Cells



*Size distribution of CUT&Tag library fragments prepared from 100 cells (left) or 10,000 cells (right). One hundred or 10,000 cells of HEK293 was used for CUT&Tag and library preparation using **Vazyme, #TD901**, respectively. The final concentration of pG-Tn5 transposon was 0.04 μM. The 1st antibody was H3K27me3 (CST, #9733), the 2nd antibody was Goat anti Rabbit (Bioworld, #BS13271). Size distribution of library fragments was detected using an Agilent 2100 Bioanalyzer. The results showed that, using **#TD901**, CUT&Tag libraries were prepared successfully from both 100 and 10,000 cells.*

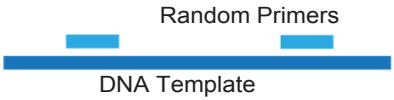
2. High Signal-to-Noise Ratio



Peak enrichment of libraries that compared with different methods and different cell inputs. (The 1st row - ChIP-Seq; the 2nd row - CUT&Tag from 100 cells using #TD901; the 3rd row - CUT&Tag from 10,000 cells using #TD901). CUT&Tag libraries were sequenced on a Hiseq X10 PE150, respectively. The raw data was filtered and then subjected to Peak Calling analysis. The results showed that the peak enrichment of CUT&Tag library from 100 cells is similar to that of 10,000 cells, and the signal-to-nose ratio (S/N) of both CUT&Tag libraries was significantly better than that of traditional ChIP-Seq library.

Single Cell Whole Genome Amplification (WGA) Kit

Discover-sc Single Cell WGA Kit (#N603) is an isothermal amplification system based on the multiple displacement amplification (MDA) using Phi29. The Phi29 DNA polymerase is cloned from phage and has extremely strong strand-displacement activity and can be used for in vitro MDA polymerization at a constant temperature, with no need for thermal cycling. One single polymerization reaction using Phi29 can achieve continuous polymerization extension up to 100 kb. This kit is suitable for the whole genome amplification (WGA) from a single cell, small amount of tissues, or even trace purified genomic DNA, to obtain a large amount of genomic DNA with high coverage.



Random primers bind to multiple sites of the DNA template.

Phi29 DNA polymerase simultaneously initiates DNA replication at multiple primer binding sites.

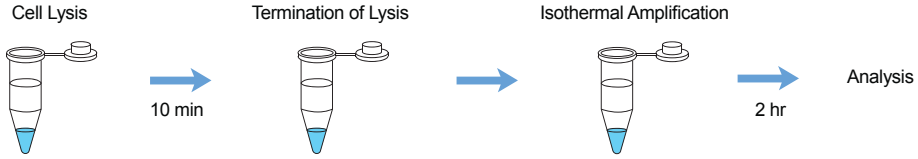
Chain synthesis reaction in process replaces encountered DNA chain in synthesis and continue elongation, and produces replaced single strand DNA.

Replaced single strand DNA is bind by random primers as template.

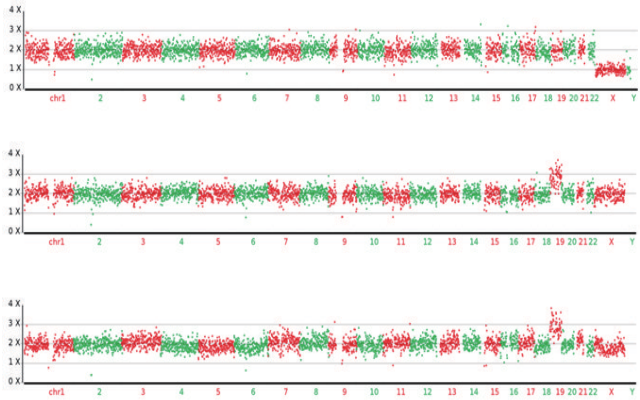
Random primers initiate new DNA synthesis and chain replacement reaction, to synthesize double strand DNA of high molecular size.

Discover-sc Single Cell WGA Kit (#N603)

Wide Sample Compatibility	Applicable to animal and plant cells, bacteria or blastomeres, trophectoderm cells, sperm and other samples.
High Coverage	Single cell genome can reach more than 95% coverage after amplification.
High Uniformity	Chromosome copy number variation analysis from > 1 Mb of the read depth.
High Fidelity	The fidelity of Phi29 DNA polymerase is 1000 folds than Taq polymerase.
Easy Operation	React at single tube, operate within 10 min, not required for purification of amplification product.



Step 1: Cell Lysis	Step 2: Termination of Lysis	Step 3: MDA Amplification
1. Prepare a mixture of cell lysis buffer. 2. Add the cell to lysis buffer. 3. Incubate at 65℃ for 10 min.	Add a neutral solution to stop the reaction from previous step.	1. Prepare the mixture of amplification. 2. Add the mixture of amplification to the system from Step 2. 3. Amplify at 30℃ for 2 hours.



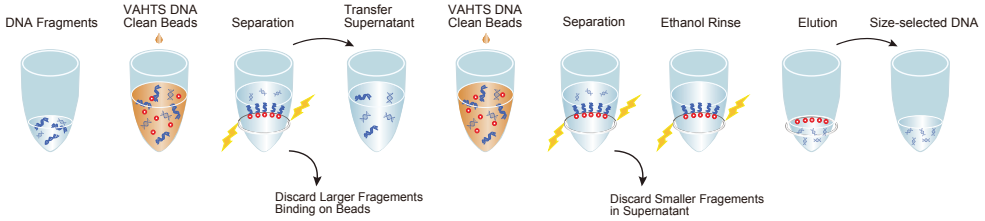
Scatter plots of whole genome copy numbers.

Single cell (using trophectoderm cells and sperm as a template, respectively) genomic amplification was performed using Vazyme #N603. Then libraries were prepared for sequencing, which was performed in Illumina MiniSeq after pooling according to the effective concentration and the 0.01X of sequencing depth. The data showed that the distribution of the reads was uniform in all parts of the genome, indicating that the amplification uniformity of Vazyme #N603 was excellent.

Beads

VAHTS DNA Clean Beads (#N411)

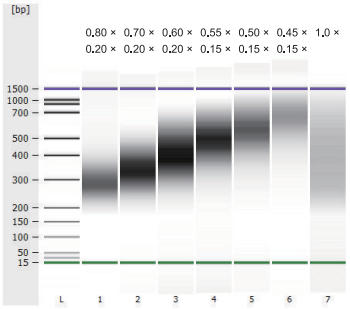
- Applicable for DNA purification and size selection in NGS library preparation.
- Compatible with almost all library prep protocols provided by all manufacturers.

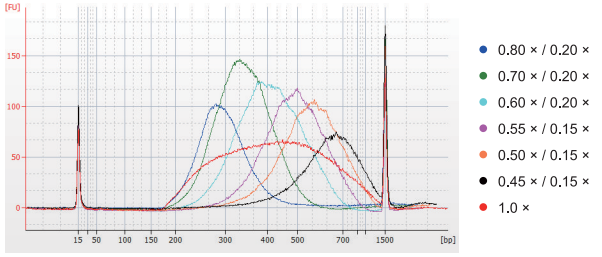


Validation Data

A DNA library (200 bp - 1,500 bp) was prepared using TruePrep DNA Library Prep Kit V2 for Illumina (**Vazyme, #TD501**). Size-selection was performed using VAHTS DNA Clean Beads (Vazyme, #N411) according to the different parameters in the following table, respectively. Size distribution was detected using an Agilent 2100 Bioanalyzer.

Ratio of 1st-round (Beads: DNA)	0.80 ×	0.70 ×	0.60 ×	0.55 ×	0.50 ×	0.45 ×	1.0 ×
Ratio of 2nd-round (Beads: DNA)	0.20 ×	0.20 ×	0.20 ×	0.15 ×	0.15 ×	0.15 ×	
Average Size (bp)	300	350	400	500	600	700	200-1500





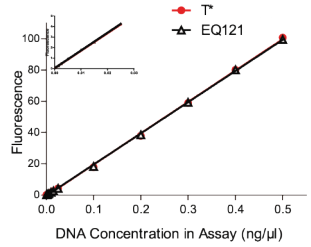
Library Quantification

→ Equalbit 1 × dsDNA HS Assay Kit (#EQ121)

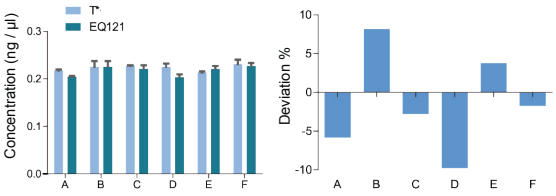
Easy to Use	Premixed reagent that is ready-to-use.
Hyper Sensitive	Accurate quantification of 0.2 ng- 100 ng of dsDNA.
Super Specificity	Excellent specificity to dsDNA.
Excellent Stability	Strictly quality controlled standards, ensuring batch-to-batch consistency.

Validation Data

1. Hyper Sensitive



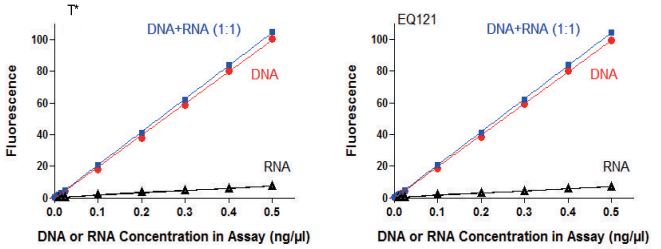
*Linearity Analysis (0.2 ng-100 ng): dsDNA samples with 12 different concentrations were tested using **Vazyme, #EQ121** or a similar reagent from vendor T*, respectively. Fluorescence signals were read using a Qubit™ Fluorometer 3.0. The result showed a excellent linear relationship between fluorescence and DNA concentration when the amount of dsDNA ranged from 0.2 ng to 100 ng.*



*Results and deviation rate obtained from different operators: the standard of **Vazyme, #EQ121** was serial-diluted to 0.2 ng / μl (theoretical concentration), and then tested by 6 different operators (A, B, C, D, E, F), respectively. The results are showed on the left, and the deviation rate, calculated as [result of EQ121 - result of T*] / test result of T* x 100%, are all within 10%.*

2. Super Specificity to dsDNA

*Samples of dsDNA, RNA, and DNA + RNA (1:1) were tested with **Vazyme, #EQ121** and a similar reagent from vendor T*. The results showed that Similar to products from T*, **Vazyme, #EQ121** specifically binds to dsDNA, even in the presence of RNA.*



Cell-free DNA (cfDNA) Preservation and Isolation

→ VAHTS Blood Collection tube for cell-free DNA preservation (#N901)

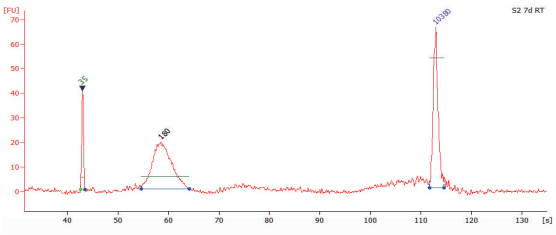
- Preserve cfDNA in whole blood for up to **14 days** at room temperature without genomic DNA release or DNase-induced degradation.
- Excellent **tolerance to temperature & shaking** benefits the storage and long-distance transport of blood samples.
- The extracted cfDNA can be used for library preparation with **excellent efficiency and fidelity**.
- User-friendly label design and **flexible volume** for blood collection.

→ VAHTS Serum / Plasma Circulating DNA Kit (#N902)

cfDNA with Excellent Purity	Accurate product concentration determination, unaffected by Carrier RNA.
cfDNA with High Coverage	The extracted cfDNA has no GC preference and is suitable for sequencing (i.e. NGS).
Compatible with Automatic Procedures	Suitable for manual extraction procedures and most automatic nucleic acid extraction instruments.

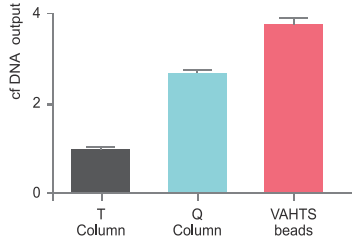
Validation Data

1. Products with High Purity



Electropherogram of separated cfDNA in Agilent 2100 analyzer.

2. High Yield



Actual yield of cfDNA detected by qPCR.

TruePrep DNA Library Prep Kits for Illumina®

Wang J, Wang L, *et al*. Asymmetric Expression of LincGET Biases Cell Fate in Two-Cell Mouse Embryos. ***Cell***, 2018, 175(7):18871-1901. **(Vazyme #TD502)**

Han X, Wang R, *et al*. Mapping the Mouse Cell Atlas by Microwell-Seq. ***Cell***, 2018, 172(5):1091-107 **(Vazyme #TD513)**

Zhang L, Yu X, et al. Lineage tracking reveals dynamic relationships of T cells in colorectal cancer. ***Nature***, 2018, 564(7735):268-72. **(Vazyme #TD502)**

Wu J, Xu J, *et al*. Chromatin analysis in human early development reveals epigenetic transition during ZGA. ***Nature***, 2018, 557(7704):256-60 **(Vazyme, #TD502)**

Zheng C, Zheng L, *et al*. Landscape of Infiltrating T Cells in Liver Cancer Revealed by Single-Cell Sequencing. ***Cell***, 2017, 169(7):1342-56 **(Vazyme, #TD503)**

Huang X, Yang S, *et al*. Genomic architecture of heterosis for yield traits in rice. ***Nature***, 2016, 537(7622):629-33. **(Vazyme, #TD501)**

Wu J, Huang B, *et al*. The landscape of accessible chromatin in mammalian preimplantation embryos. ***Nature***, 2016, 534(7609):652-7. **(Vazyme, #TD501)**

Guo X, Zhang Y, et al. Global characterization of T cells in non-small-cell lung cancer by single-cell sequencing. ***Nature Medicine***, 2018, 24(7):978-85. **(Vazyme, #TD501)**

Liu Z, Yan M, et al. Nucleoporin Seh1 Interacts with Olig2/Brd7 to Promote Oligodendrocyte Differentiation and Myelination. ***Neuron***, 2019, pii: S0896-6273(19)30153-9. **(Vazyme, #TD502)**

Li X, Meng D, *et al*. Single nucleus sequencing reveals spermatid chromosome fragmentation as a possible cause of maize haploid induction. ***Nature Communications***, 2017, 8(1):991. **(Vazyme, #TD501, #TD503)**

Yang L, Wang W, *et al*. A single-cell transcriptomic analysis reveals precise pathways and regulatory mechanisms underlying hepatoblast differentiation. ***Hepatology***, 2017, 66(5):1387-401. **(Vazyme, #TD502, #411)**

VAHTS Universal DNA Library Prep Kits for Illumina®

Zhang M, Dong Y, *et al*. Transcription factor Hoxb5 reprograms B cells into functional T lymphocytes. ***Nature Immunology***, 2018, 19(3):279-90. **(Vazyme, #ND604, #N601)**

Cao S, Yu S, *et al*. Chromatin accessibility dynamics during chemical induction of pluripotency. ***Cell Stem Cell***, 2018, 22(4): 529-42. **(Vazyme, #ND102, #NQ101)**

VAHTS Total RNA-seq (H/M/R) Library Prep Kit for Illumina®

He Y, Li X, *et al*. Transitory presence of myeloid-derived suppressor cells in neonates is critical for control of inflammation. ***Nature Medicine***, 2018. 24(2):224-31. **(Vazyme, #NR603)**

VAHTS mRNA-seq Library Prep Kits for Illumina®

Tian X, He G, et al. Cryptococcus neoformans sexual reproduction is controlled by a quorum sensing peptide. ***Nature Microbiology***, 2018: 3(6):698-707. **(Vazyme, #NR601)**

Han X, Chen H, et al. Mapping human pluripotent stem cell differentiation pathways using high throughput single-cell RNA-sequencing. ***Genome Biology***, 2018, 19(1):47. **(Vazyme, #NR601)**

Qin X, Liu S, *et al*. Heterotrimeric G Stimulatory Protein α Subunit Is Required for Intestinal Smooth Muscle Contraction in Mice. ***Gastroenterology***, 2017, 152(5):1114-25. **(Vazyme, #NR601)**

Shen C, Wang J, *et al*. Transcriptome Analysis of Differentially Expressed Genes Induced by Low and High Potassium Levels Provides Insight into Fruit Sugar Metabolism of Pear. ***Frontiers in Plant Science***, 2017, 8:938. **(Vazyme, #NR601)**

VAHTS Stranded mRNA-seq Library Prep Kit for Illumina®

Song L, Ma Q, *et al*. Molecular Link between Leaf Coloration and Gene Expression of Flavonoid and Carotenoid Biosynthesis in Camellia sinensis Cultivar 'Huangjinya'. ***Frontiers in Plant Science***, 2017, 8:803. **(Vazyme, #NR602)**

Discover-sc Single Cell Kit

Zhang M, Dong Y, *et al*. Transcription factor Hoxb5 reprograms B cells into functional T lymphocytes. ***Nature Immunology***, 2018, 19(3):279-90. **(Vazyme, #ND604, #N601)**

VAHTS DNA Clean Beads

Yang L, Wang W, *et al*. A single-cell transcriptomic analysis reveals precise pathways and regulatory mechanisms underlying hepatoblast differentiation. ***Hepatology***, 2017, 66(5):1387-401. **(Vazyme, #TD502, #N411)**

Wang Y, Zhang X, et al. Bisulfite-free, single base-resolution analysis of 5-hydroxymethylcytosine in genomic DNA by chemical-mediated mismatch. ***Chemical Science***, 2018, 10(2): 447-52. **(Vazyme, #N411)**

Tao Z, Zhang X, *et al*. Analysis of long noncoding RNA and mRNA using RNA sequencing during the differentiation of intramuscular preadipocytes in chicken. ***PLoS One***, 2017, 12(2):e0172389 **(Vazyme, #N411)**

VAHTS Library Quantification Kits for Illumina®

Cao S, Yu S, *et al*. Chromatin accessibility dynamics during chemical induction of pluripotency. ***Cell Stem Cell***, 2018, 22(4):529-42. **(Vazyme, #ND102, #NQ101)**

Li D, Liu J, *et al*. Chromatin Accessibility Dynamics during iPSC Reprogramming. ***Cell Stem Cell***, 2017, 21(6):819-33. **(Vazyme, #NQ101)**

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