

Introduction

VAHTS DNA Adapters Set 1/2 for Illumina® are specially designed for DNA library preparation for Illumina platforms. The set 1 (Cat.No. #N801) contains 12 kinds of indexed adapters (DNA Adapter 1 - 12). The set 2 (Cat.No. #N802) contains another 12 kinds of indexed adapters (DNA Adapter 13 - 27).

Contents of Kit

| Components | N801- 01 | N801- 02 | Components | N802- 01 | N802- 02 |
|----------------|----------|----------|----------------|----------|----------|
| DNA Adapter 1 | 10 µl | 40 µl | DNA Adapter 13 | 10 µl | 40 µl |
| DNA Adapter 2 | 10 µl | 40 µl | DNA Adapter 14 | 10 µl | 40 µl |
| DNA Adapter 3 | 10 µl | 40 µl | DNA Adapter 15 | 10 µl | 40 µl |
| DNA Adapter 4 | 10 µl | 40 µl | DNA Adapter 16 | 10 µl | 40 µl |
| DNA Adapter 5 | 10 µl | 40 µl | DNA Adapter 18 | 10 µl | 40 µl |
| DNA Adapter 6 | 10 µl | 40 µl | DNA Adapter 19 | 10 µl | 40 µl |
| DNA Adapter 7 | 10 µl | 40 µl | DNA Adapter 20 | 10 µl | 40 µl |
| DNA Adapter 8 | 10 µl | 40 µl | DNA Adapter 21 | 10 µl | 40 µl |
| DNA Adapter 9 | 10 µl | 40 µl | DNA Adapter 22 | 10 µl | 40 µl |
| DNA Adapter 10 | 10 µl | 40 µl | DNA Adapter 23 | 10 µl | 40 µl |
| DNA Adapter 11 | 10 µl | 40 µl | DNA Adapter 25 | 10 µl | 40 µl |
| DNA Adapter 12 | 10 µl | 40 µl | DNA Adapter 27 | 10 µl | 40 µl |

* N801-01 & N802-01: 4 rxn for each DNA Adapter (2.5 µl / library), 48 rxn for the entire kit.

* N801-02 & N802-02: 16 rxn for each DNA Adapter (2.5 µl / library), 192 rxn for the entire kit.

Storage

All the components can be stored at -20°C for one year.

Application

Special for DNA library preparation for Illumina platforms with Vazyme VHATS Universal DNA Library Prep Kit for Illumina (Vazyme, Cat.No. #ND604).

Quality Control

16-Hour Incubation: A 50 µl reaction system containing 5 µl of DNA Adapter and 1 µg of Hind III-λDNA incubated at 37°C for 16 hours resulted in no band degraded detected by agarose gel electrophoresis. A 50 µl reaction system containing 5 µl of DNA Adapter and 1 µg of T3 DNA incubated at 37°C for 16 hours resulted in no band degraded detected by agarose gel electrophoresis.

Endonuclease Activity: A 50 µl reaction system containing 5 µl of DNA Adapter and 1 µg of φX174RF I DNA incubated at 37°C for 4 hours resulted in < 10% conversion to RF II analyzed by agarose gel electrophoresis.

Sequence

The structure of libraries prepared with VAHTS DNA Adapter Set 1/Set 2 for Illumina® are as follows:

5' - **Universal Adapter** - Insert DNA Sequence - **DNA Adapter X** - 3'



VAHTS Index Primer for Illumina®

Both the Universal Adapter and the Index are contained in each DNA Adapter. The related sequences are as follows:

| Name | Sequence | Index Sequence* |
|-------------------|--|-----------------|
| Universal Adapter | 5'-AATGATACGGCGACCACCGAGATCTACACTCTTTCCCTACACGACGCTCTTCCGATCT-3' | |
| DNA Adapter 1 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC ATCACG ATCTCGTATGCCGTCTTCTGCTTG-3' | ATCACG |
| DNA Adapter 2 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC CGATGT ATCTCGTATGCCGTCTTCTGCTTG-3' | CGATGT |
| DNA Adapter 3 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC TTAGGC ATCTCGTATGCCGTCTTCTGCTTG-3' | TTAGGC |
| DNA Adapter 4 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC TGACCA ATCTCGTATGCCGTCTTCTGCTTG-3' | TGACCA |
| DNA Adapter 5 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC ACAGTG ATCTCGTATGCCGTCTTCTGCTTG-3' | ACAGTG |
| DNA Adapter 6 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC GCCAAT ATCTCGTATGCCGTCTTCTGCTTG-3' | GCCAAT |
| DNA Adapter 7 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC CAGATC ATCTCGTATGCCGTCTTCTGCTTG-3' | CAGATC |
| DNA Adapter 8 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC ACTTGA ATCTCGTATGCCGTCTTCTGCTTG-3' | ACTTGA |
| DNA Adapter 9 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC GATCAG ATCTCGTATGCCGTCTTCTGCTTG-3' | GATCAG |
| DNA Adapter 10 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC TAGCTT ATCTCGTATGCCGTCTTCTGCTTG-3' | TAGCTT |
| DNA Adapter 11 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC GGCTAC ATCTCGTATGCCGTCTTCTGCTTG-3' | GGCTAC |
| DNA Adapter 12 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC CTTGTA ATCTCGTATGCCGTCTTCTGCTTG-3' | CTTGTA |
| DNA Adapter 13 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC AGTCAA CAATCTCGTATGCCGTCTTCTGCTTG-3' | AGTCAA |
| DNA Adapter 14 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC AGTTCC GATCTCGTATGCCGTCTTCTGCTTG-3' | AGTTCC |
| DNA Adapter 15 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC ATGTCA GAATCTCGTATGCCGTCTTCTGCTTG-3' | ATGTCA |
| DNA Adapter 16 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC CCGTCC GATCTCGTATGCCGTCTTCTGCTTG-3' | CCGTCC |
| DNA Adapter 18 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC GTCCGC ACATCTCGTATGCCGTCTTCTGCTTG-3' | GTCCGC |
| DNA Adapter 19 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC GTGAAA CGATCTCGTATGCCGTCTTCTGCTTG-3' | GTGAAA |
| DNA Adapter 20 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC GTGGCC TTATCTCGTATGCCGTCTTCTGCTTG-3' | GTGGCC |
| DNA Adapter 21 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC GTTTCG GAATCTCGTATGCCGTCTTCTGCTTG-3' | GTTTCG |
| DNA Adapter 22 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC CGTACG AAATCTCGTATGCCGTCTTCTGCTTG-3' | CGTACG |
| DNA Adapter 23 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC GAGTGG ATATCTCGTATGCCGTCTTCTGCTTG-3' | GAGTGG |
| DNA Adapter 25 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC ACTGAT ATATCTCGTATGCCGTCTTCTGCTTG-3' | ACTGAT |
| DNA Adapter 27 | 5'-GATCGGAAGAGCACACGTCTGAACTCCAGTCAC ATTCCT TTATCTCGTATGCCGTCTTCTGCTTG-3' | ATTCCT |

* The index sequences (6 bp) are also the index sequences during sequencing, which can be input directly to the Sample Sheet.

