

VAHTS Dual UMI UDI Adapters Set 1 - Set 4 for Illumina

N351/N352/N353/N354



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Instruction for Use

Version 22.2

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01/Product Description

VAHTS Dual UMI UDI Adapters Set 1 - Set 4 for Illumina is specially designed for DNA library preparation for Illumina high-throughput sequencing. VAHTS Dual UMI Adapters for Illumina included in this kit is compatible with various TA-ligation library preparation kits. After Adapter ligation, Insert DNA is flanked by 5 - 6 nt Unique Molecular Identifier (UMI), which can be used for low-frequency variant detection. VAHTS UDI Primer for Illumina contains specifically matched Unique Dual Index (UDI). After library amplification, two completely independent Index double tests can be realized, which minimizes Index hopping and Index misassignment, thus ensuring data accuracy and confidence.

This kit contains Set 1 - Set 4. Each Set contains 24 VAHTS UDI Primer for Illumina and VAHTS Dual UMI Adapters for Illumina. All the Adapters provided in the kit have undergone rigorous quality control and functional validation to ensure the optimal stability and repeatability of library preparation.

02/Components

Components	N351-01 (96 rxns)	N352-01 (96 rxns)	N353-01 (96 rxns)	N354-01 (96 rxns)
■ VAHTS UDI Primer for Illumina (UDI 001 - UDI 024)	20 µl/each			
■ VAHTS UDI Primer for Illumina (UDI 025 - UDI 048)		20 µl/each		
■ VAHTS UDI Primer for Illumina (UDI 049 - UDI 072)			20 µl/each	
■ VAHTS UDI Primer for Illumina (UDI 073 - UDI 096)				20 µl/each
■ VAHTS Dual UMI Adapters for Illumina	480 µl	480 µl	480 µl	480 µl

03/Storage

Store at -30 ~ -15°C and transport at ≤0°C.

04/Applications

VAHTS Dual UMI UDI Adapters Set 1 - Set 4 for Illumina (Vazyme #N351-N354) is a dedicated kit for Vazyme ND series library preparation kit. It is compatible with various template type: genomic DNA, cfDNA, ctDNA and FFPE DNA. It is suitable for multi-sample dual indexed DNA library preparation and can effectively prevent crosstalk between samples and realize the low-frequency variant detection.

05/Notes

For research use only. Not for use in diagnostic procedures.

1. The use amount of DNA Adapter depends on the Input DNA amount. Refer to Appendix for specific concentration.
2. Please do not premix Adapter, Ligation Buffer and Ligase, or it may result in Adapter self-ligation.
3. Please do not keep this product at room temperature, or the ligation efficiency may decrease.

06/Library Structure and Sequences

The structure of a DNA library prepared by using VAHTS Dual UMI UDI Adapters Set 1 - Set 4 is as follows:

5' - DNA Adapter X - UMI - Insert DNA Sequence - UMI - DNA Adapter X - 3'

Index sequences are as follows:

VAHTS UDI Primer for Illumina	i5 Index (NovaSeq v1.0, HiSeq 2000/2500, MiSeq)	i5 Index (NovaSeq v1.5, HiSeq 3000/4000, NextSeq, MiniSeq)	i7 Index (all Illumina systems)
UDI 001	CGACCAAT	AATGGTCG	GCCTATCA
UDI 002	GATAGCGA	TCGCTATC	CTTGGATG
UDI 003	AATGGACG	CGTCCATT	AGTCTCAC
UDI 004	CGCTAGTA	TACTAGCG	CTCATCAG
UDI 005	TCTCTAGG	CCTAGAGA	TGTACCGT
UDI 006	ACATTGCG	CGCAATGT	AAGTCGAG
UDI 007	TGAGGTGT	ACACCTCA	CACGTTGT
UDI 008	AATGCCTC	GAGGCATT	TCACAGCA
UDI 009	CTGGAGTA	TACTCCAG	CTACTTGG
UDI 010	GTATGCTG	CAGCATA	CCTCAGTT
UDI 011	TGGAGAGT	ACTCTCCA	TCCTACCT
UDI 012	CGATAGAG	CTCTATCG	ATGGCGAA
UDI 013	CTCATTGC	GCAATGAG	CTTACCTG
UDI 014	ACCAGCTT	AAGCTGGT	CTCGATAC
UDI 015	GAATCGTG	CACGATTC	TCCGTGAA
UDI 016	AGGCTTCT	AGAAGCCT	TAGAGCTC
UDI 017	CAGTTCTG	CAGAACTG	TGACTGAC
UDI 018	TTGGTGAG	CTCACCAA	TAGACGTG
UDI 019	CATTGGGT	ACCGAATG	CCGGAATT
UDI 020	TGTGAAGC	GCTTCACA	CTCCTAGA
UDI 021	TAAGTGGC	GCCACTTA	CAACGGAT
UDI 022	ACGTGATG	CATCACGT	TGGCTATC
UDI 023	GTAGAGCA	TGCTCTAC	CGGTCATA
UDI 024	GTCAGTTG	CAACTGAC	TCCAATCG

N352	UDI 025	ATTCGAGG	CCTCGAAT	GAGCTTGT
	UDI 026	GATACTGG	CCAGTATC	GAAGGTTT
	UDI 027	GCCTTGTT	AACAAGGC	ATCTCGCT
	UDI 028	TTGGTCTC	GAGACCAA	AGTTACGG
	UDI 029	CCGACTAT	ATAGTCGG	GTGTCTGA
	UDI 030	GTCCTAAG	CTTAGGAC	TGACTTCG
	UDI 031	ACCAATGC	GCATTGGT	TGGATCAC
	UDI 032	GATGCACT	AGTGCACT	ACACCAGT
	UDI 033	GCTGGATT	AATCCAGC	CAGGTTAG
	UDI 034	ATGGTTGC	GCAACCAT	AGTTGGCT
	UDI 035	CAGAATCG	CGATTCTG	TCAACTGG
	UDI 036	GAACGCTT	AAGCGTTC	CTGCACCT
	UDI 037	TCGAACCA	TGGTTCGA	ACACGGTT
	UDI 038	CTATCGCA	TGCGATAG	AATACGCG
	UDI 039	TACGGTTG	CAACCGTA	TGCGAACT
	UDI 040	GAGATGTC	GACATCTC	GCTGACTA
	UDI 041	CTTACAGC	GCTGTAAG	GTGGTGTT
	UDI 042	AGGAGGAA	TTCTCTCT	GTGCTTAC
	UDI 043	GACGAATG	CATTTCGT	TCAAGGAC
	UDI 044	GAAGAGGT	ACCTCTTC	TGAACCTG
	UDI 045	CGTCAATG	CATTGACG	AGTGTGTT
	UDI 046	TACCAGGA	TCCTGGTA	GTACTCTC
	UDI 047	CGTACGAA	TTCTGTAC	CCGTATCT
	UDI 048	GACTTAGG	CCTAAGTC	CGAAGAAC
N353	UDI 049	AGTGCACT	ACTGCACT	AGCGGAAT
	UDI 050	TTGATCCG	CGGATCAA	GTGAGCTT
	UDI 051	TGCCATTC	GAATGGCA	CGTGATCA
	UDI 052	CTTGCTGT	ACAGCAAG	TCGCATTG
	UDI 053	CCTACTGA	TCAGTAGG	TGACGCAT
	UDI 054	CCAAGTTG	CAACTTGG	CCGATGTA
	UDI 055	TGATCGGA	TCCGATCA	TTCGCAGT
	UDI 056	TAGTTGCG	CGCAACTA	ACGACAGA
	UDI 057	GTCTGATC	GATCAGAC	AGCTTGAG
	UDI 058	CGTTATGC	GCATAACG	GAGTGGTT
	UDI 059	GCTCTGTA	TACAGAGC	GCTGTAAG
	UDI 060	TTACCGAG	CTCGGTAA	CCAAGACT
	UDI 061	GCCATAAC	GTATGGGC	ATTGCGTG
	UDI 062	CTCAGAGT	ACTCTGAG	CTGAAGCT
	UDI 063	CGAGACTA	TAGTCTCG	TAACGAGG
	UDI 064	TGTGCGTT	AAGGCACA	TCGTCTCA
	UDI 065	TTCAGGAG	CTCCTGAA	TTCTGTGT
	UDI 066	GACTATGC	GCATAGTC	CGTTGAGT
	UDI 067	AGGTTTGA	TCGAACCT	AGTCGCTT
	UDI 068	AGTCTGTG	CACAGACT	TAGGTAGG
	UDI 069	ACCTAAGG	CCTTAGGT	CAGGAGAT
	UDI 070	TGCAGGTA	TACCTGCA	CATCGTGA
	UDI 071	AAGGACAC	GTGTCCTT	TGTTGTGG
	UDI 072	CAACCTAG	CTAGGTTG	ACAGACCT

	UDI 073	CTGACACA	TGTGTCAG	GTCCTTCT
	UDI 074	ACTCGTTG	CAACGAGT	TGATACGC
	UDI 075	AGCTCCTA	TAGGAGCT	CTGTGTTG
	UDI 076	TACATCGG	CCGATGTA	AACGTGGA
	UDI 077	CACAAGTC	GACTTGTG	GTTGCGAT
	UDI 078	CGGATTGA	TCAATCCG	AACGACGT
	UDI 079	AGTCGACA	TGTCGACT	CGTATTCT
	UDI 080	GTCTCCTT	AAGGAGAC	AGCAAGCA
	UDI 081	GAGATACG	CGTATCTC	TGTTCCGAG
	UDI 082	ATCGGTGT	ACACCGAT	CTCCATGT
	UDI 083	TCTCGCAA	TTGCGAGA	CGTCTTGT
N354	UDI 084	TCTAACGC	GCGTTAGA	ATAAGGCG
	UDI 085	CAATCGAC	GTCGATTG	TGTCTGCT
	UDI 086	GAGGACTT	AAGTCCTC	CGCTTAAC
	UDI 087	TGGAGTTG	CAACTCCA	GATCCATG
	UDI 088	CTAGGCAT	ATGCCTAG	ACCTCTGT
	UDI 089	CTCTACTC	GAGTAGAG	GCCACTTA
	UDI 090	AGAAGCGT	ACGCTTCT	ACCTGACT
	UDI 091	TCGAAGGT	ACCTTCGA	GTTAAGGC
	UDI 092	GTCGGTAA	TTACCGAC	ATGCCAAC
	UDI 093	ACGATGAC	GTCATCGT	AGAGGTTG
	UDI 094	TCCGTATG	CATACGGA	ACCATCCA
	UDI 095	CTAGGTGA	TCACCTAG	GTGGATAG
	UDI 096	CATTGCCT	AGGCAATG	CTGAGATC

07/Appendix

The recommended dilution factor and volume

Input DNA	Dual UMI Adapters	Pre-dilution Factor	Volume
≥50 ng		Undiluted	5 µl
20 - 50 ng		1 : 1	5 µl
5 - 20 ng		1 : 5	5 µl
≤5 ng		1 : 10	5 µl