

# NadPrep EZ DNA Library Preparation Module v2

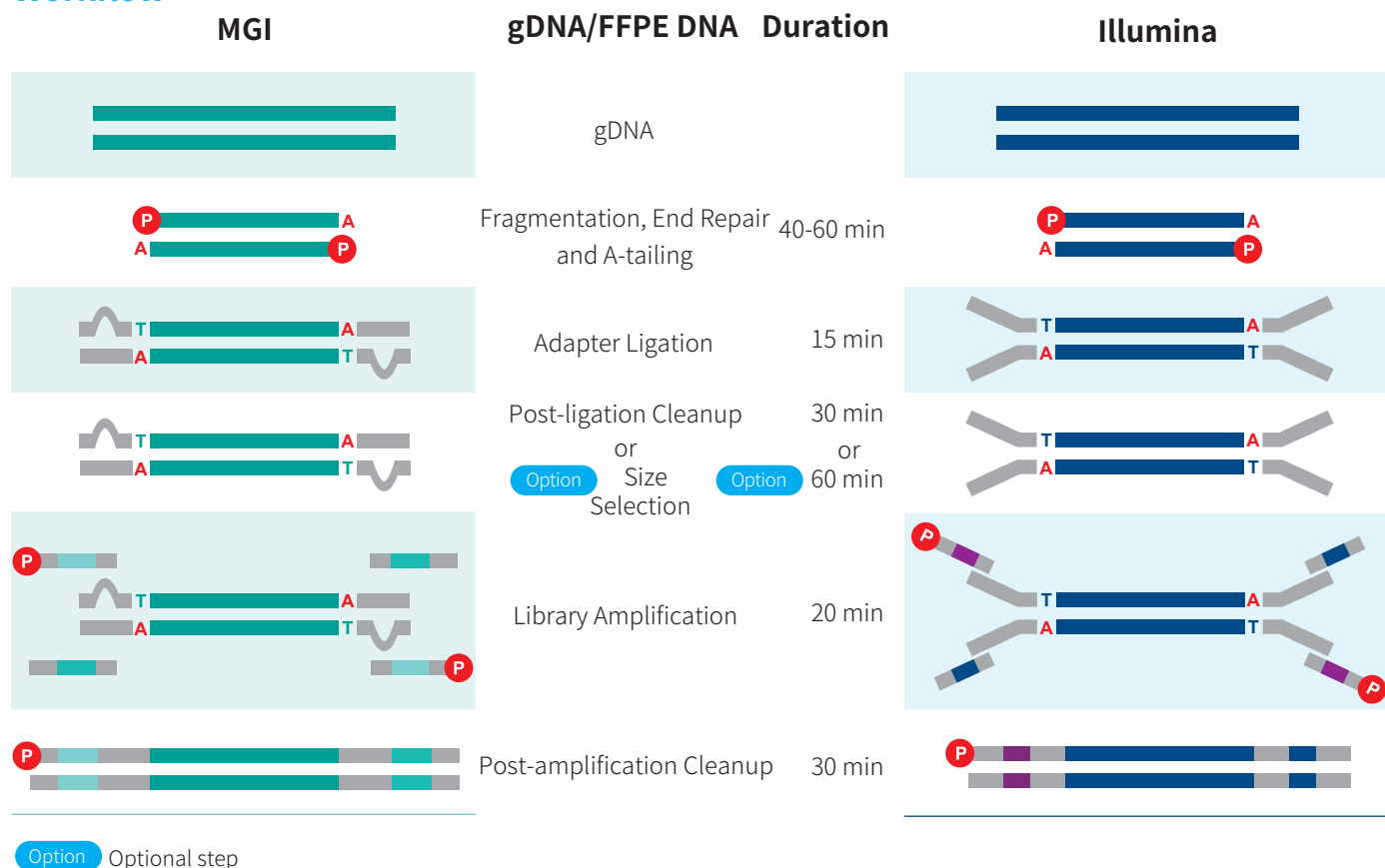
## Introduction

**NadPrep EZ DNA Library Preparation Kit v2** is designed for the preparation of high-quality sequencing libraries from double stranded DNA (dsDNA) on Illumina and MGI platforms. To simplify the experimental process, multiple processes were combined into one single step, including the fragmentation, end repair and adapter ligation. This A-T ligation-based kit can be used for whole genome sequencing with DNA input ranging from 5 to 500 ng, and is compatible with hybridization capture based targeted sequencing.

## Product Feature

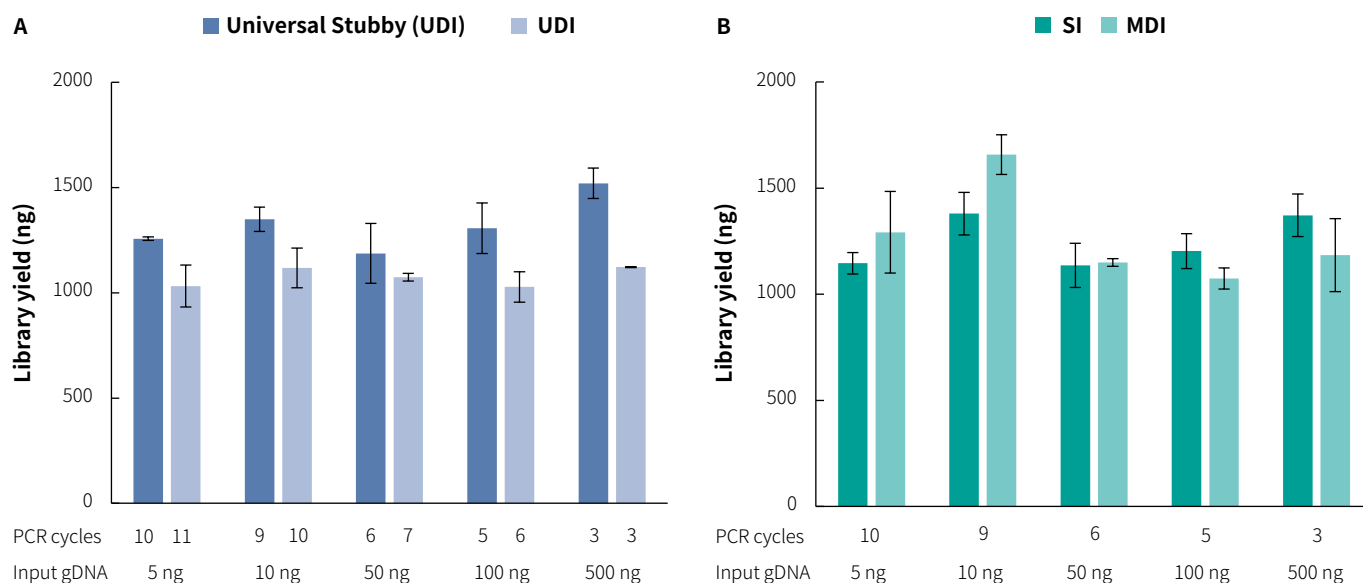
- Suitable for various types of samples including gDNA, FFPE B<sup>+</sup>/B/C/D DNA samples
- The length of DNA fragment is flexible and controllable
- Flexible system and simple operation, with Fragmentation, End Repair and A-tailing being completed in one step
- Generate high quality libraries with uniform and unbiased coverage as well as low GC bias
- Low background noise (abnormal sequence introduced by enzymatic digestion by-products)
- Compatible with automatic workstations

## Workflow



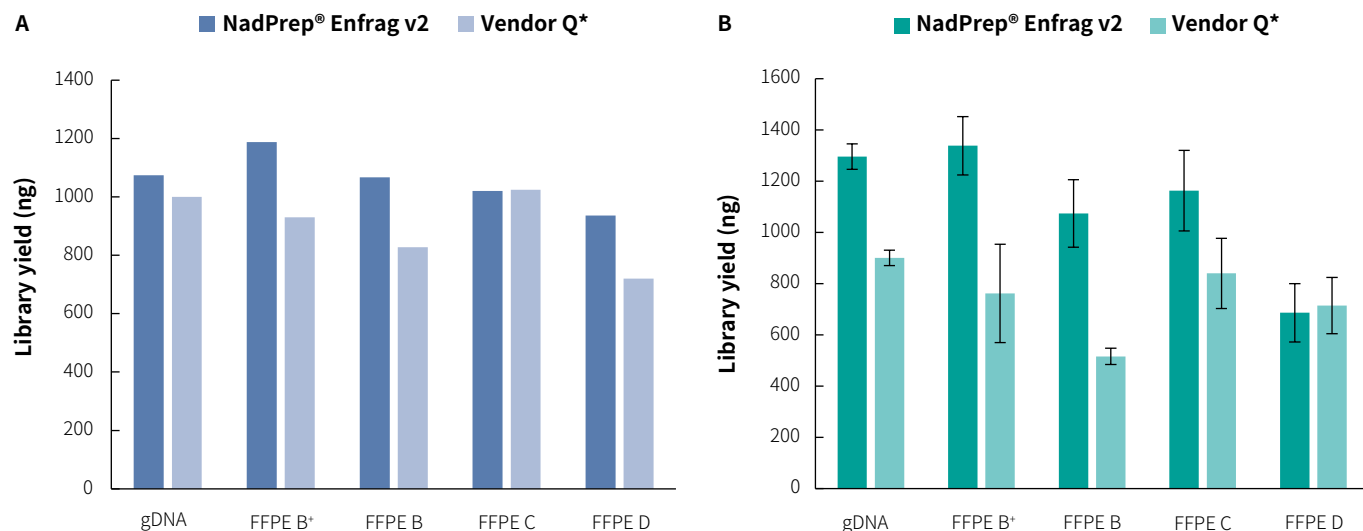
# Product Performance

## High Efficiency and Stability



**Fig 1. Library yield of NadPrep EZ DNA Library Preparation Kit v2 for gDNA samples with different input amounts.** The libraries were prepared by using NadPrep EZ DNA Library Preparation Module v2 (NadPrep Enfrag v2) coupled with **A.** NadPrep Universal Stubby Adapter (UDI) Module and NadPrep UDI Adapter Module (for Illumina®), and **B.** NadPrep Universal Adapter (SI) Module (for MGI) and NadPrep Universal Adapter (MDI) Module (for MGI) respectively, with 25 min of enzymatic digestion and recommended PCR cycles.

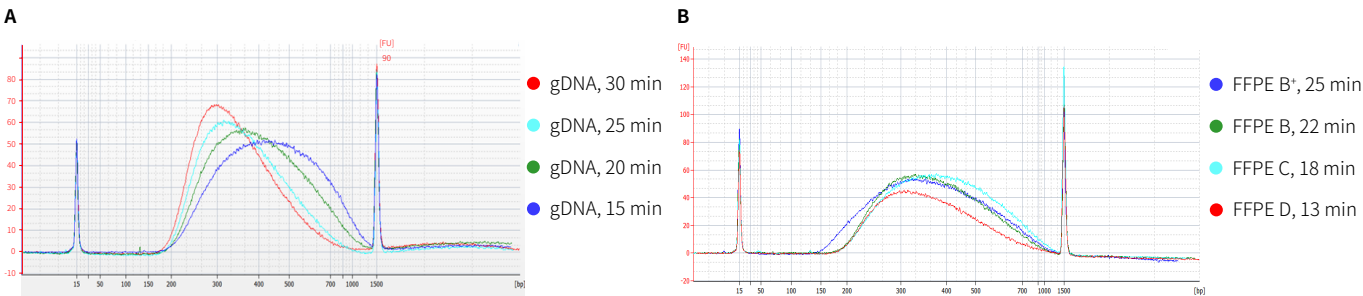
## Compatible with Different Types of Samples



**Fig 2. Library yield of NadPrep EZ DNA Library Preparation Kit v2 for different types of samples.** The libraries were prepared by using NadPrep EZ DNA Library Preparation Module v2 coupled with **A.** NadPrep UDI Adapter Module (for Illumina®) and **B.** NadPrep Universal Adapter (MDI) Module (for MGI) respectively, with enzymatic digestion duration and PCR cycles as protocol.

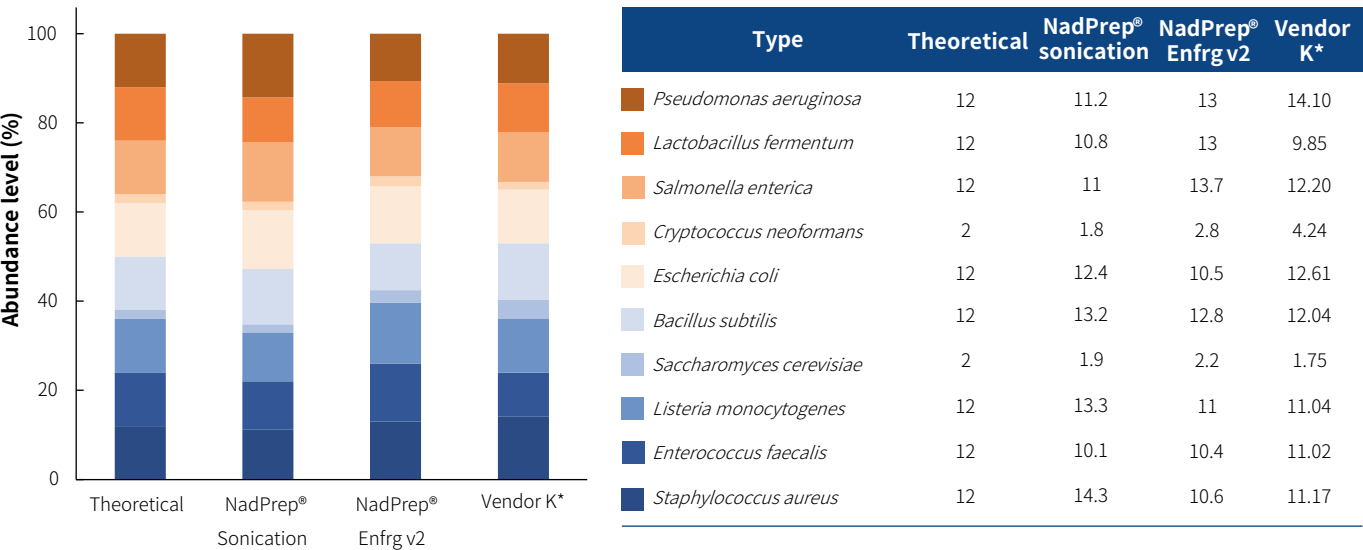
**Note:** The grading standards by electrophoresis are as follows: gDNA: one bright and non-trailing stripe with about 15 kb in size. FFPE B+: one clear stripe with slight diffusion and with about 15 kb in size. FFPE B: one indistinct stripe with about 15 kb in size, with medium diffusion. FFPE C: multiple stripes ranging from 200 bp to 2,500 bp, with severe diffusion. FFPE D: multiple stripes ranging from 250 bp to 1,000 bp, with severe diffusion.

Flexible and Controllable Fragmentation



**Fig 3. Size distribution of libraries prepared with different types of samples under different enzymatic digestion conditions.** **A.** The libraries were prepared from 250 ng of gDNA sample with different grades by using NadPrep EZ DNA Library Preparation Module v2 coupled with NadPrep UDI Adapter Module (for Illumina®), with enzymatic digestion at different times as protocol, so as to obtain DNA fragments of different lengths. **B.** The libraries were prepared from 50 ng of FFPE DNA samples of different grades, with enzymatic digestion at different times as protocol, so as to obtain DNA fragments of 250 bp.

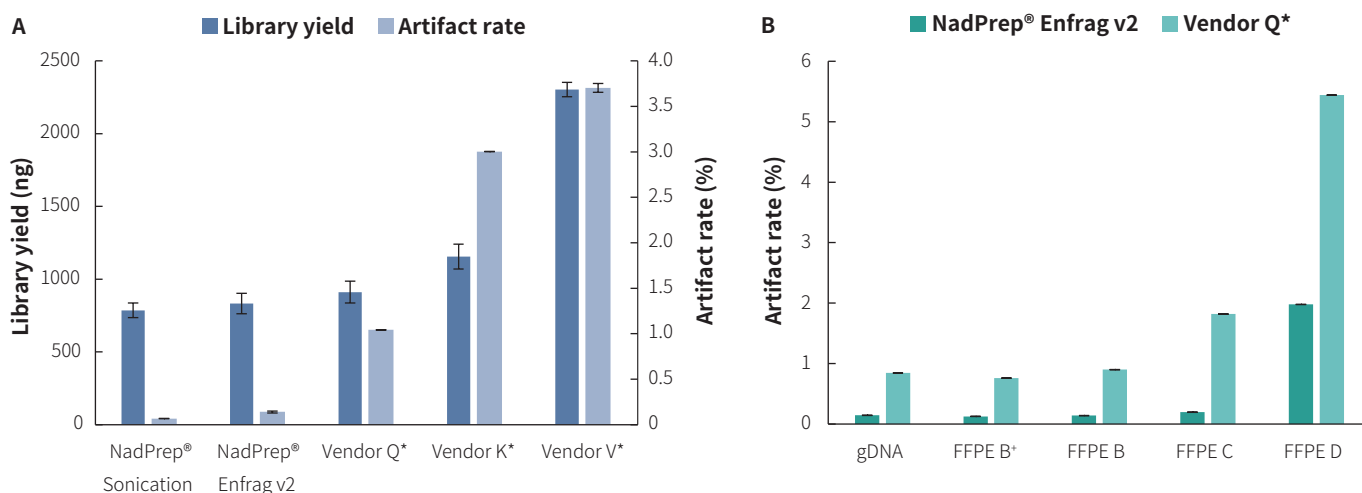
Low GC Bias



**Fig 4. Low GC bias in metagenomic library preparation using NadPrep EZ DNA Library Preparation Kit v2.** After comparison of different library preparation schemes by using microbial community DNA standard (Zymo Research, D6306), the libraries prepared by using NadPrep EZ DNA Library Preparation Kit v2 show no significant difference in GC bias with those prepared by using sonication-based library preparation kits.

**Note:** Both NadPrep Sonication: NadPrep DNA Universal Library Preparation Module (for Illumina®) and NadPrep Enfrag v2: NadPrep EZ DNA Library Preparation Kit V2 can be used along with NadPrep UDI Adapter Module (for Illumina®) for library preparation.

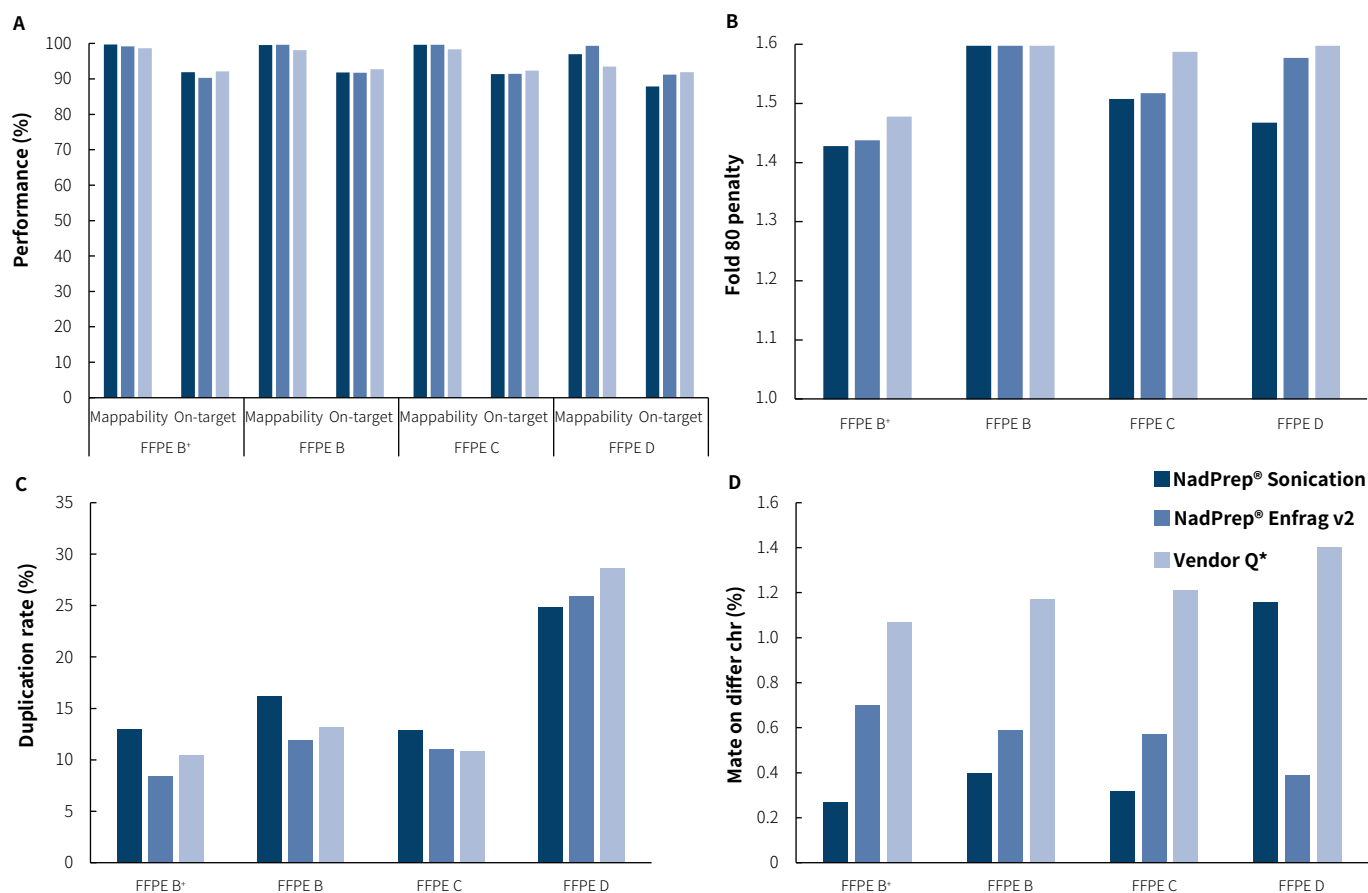
## Low Background Noise Introduced



**Fig 5. The abnormal reads ratio of libraries prepared with different types of samples by using different library preparation kits.** The libraries were prepared with gDNA and different grades of FFPE DNA samples (50 ng each) with library preparation strategies, including NadPrep Sonication, NadPrep Enfrag v2, Vendor Q<sup>\*</sup>, Vendor K<sup>\*</sup> and Vendor V<sup>\*</sup> enzymatic fragmentation library preparation kits. The multi-hybridization reaction was initiated with 500 ng of each library with the same library preparation scheme. The capture was performed by using NanOnco Plus Panel v2.0, with calculation of total reads. **A.** Library yield and the abnormal reads ratio of libraries prepared with gDNA samples (Illumina platform) with different library preparation schemes; **B.** Abnormal reads ratio of libraries prepared with different grades of FFPE DNA samples by using enzymatic fragmentation library preparation kit (MGI platform).

**Note:** Artifact rate: the ratio of abnormal sequence introduced by enzymatic digestion by-products.

## Excellent Capture Performance



**Fig 6. The capture performance of libraries prepared by the enzyme-based kit and the sonication-based kit.** The libraries were prepared from 50 ng of FFPE DNA samples with different grades, using either NadPrep Sonication strategy or NadPrep Enfrag strategy, and the multi-hybridization reaction was initiated with 500 ng of each library with the same library preparation scheme by using NanOnco Plus Panel v2.0 (2.6 M) coupled with NadPrep Hybrid Capture Reagents and NadPrep NanoBlockers (for Illumina<sup>®</sup>), and the sequencing data is analyzed by selecting 2 M reads pair randomly. The performance of capture data of different library preparation schemes was basically consistent in **A.** Mappability and On-target rate, but the performance in **B.** Fold 80 penalty, **C.** Duplication rate and **D.** Mate on differ chr was superior to that of competitive products.

## Ordering Information

Type	Product	Scale	Catalog#
Library Prep Module	NadPrep EZ DNA Library Preparation Module v2, 24 rxn	24 rxn	1002601
	NadPrep EZ DNA Library Preparation Module v2, 96 rxn	96 rxn	1002602
Universal Adapter (SI) Module (for MGI)	NadPrep Universal Adapter (SI) Module Set A1 (for MGI), 24 rxn	SI 1-12	1003611
	NadPrep Universal Adapter (SI) Module Set D1 (for MGI), 480 rxn	SI 1-96	1003620
	NadPrep Universal Adapter (SI) Module Set B1 (for MGI), 96 rxn	SI 1-24	1003621
	NadPrep Universal Adapter (SI) Module Set B2 (for MGI), 96 rxn	SI 25-48	1003622
Universal Adapter (MDI) Module (for MGI)	NadPrep Universal Adapter (MDI) Module Set A1 (for MGI), 24 rxn	MDI 1-12	1003711
	NadPrep Universal Adapter (MDI) Module Set B1 (for MGI), 96 rxn	MDI 1-24	1003721
	NadPrep Universal Adapter (MDI) Module Set B2 (for MGI), 96 rxn	MDI 25-48	1003722
	NadPrep Universal Adapter (MDI) Module Set B3 (for MGI), 96 rxn	MDI 49-72	1003725
	NadPrep Universal Adapter (MDI) Module Set B4 (for MGI), 96 rxn	MDI 73-96	1003726
	NadPrep Universal Adapter (MDI) Module Set D1 (for MGI), 480 rxn	MDI 1-96	1003731
	NadPrep Universal Adapter (MDI) Module Set D2 (for MGI), 480 rxn	MDI 97-192	1003732
	NadPrep Universal Adapter (MDI) Module Set D3 (for MGI), 480 rxn	MDI 193-288	1003733
	NadPrep Universal Adapter (MDI) Module Set D4 (for MGI), 480 rxn	MDI 289-384	1003734
Universal Stubby Adapter (UDI) Module	NadPrep Universal Stubby Adapter (UDI) Module Set A1, 24 rxn	1-12	1003240
	NadPrep Universal Stubby Adapter (UDI) Module Set B1, 96 rxn	1-24	1003241
	NadPrep Universal Stubby Adapter (UDI) Module Set B2, 96 rxn	25-48	1003242
	NadPrep Universal Stubby Adapter (UDI) Module Set D1, 480 rxn	1-96	1003245
Full UDI Adapter Module (for Illumina)	NadPrep UDI Adapter Kit Set C1 (for Illumina®), 24 rxn	1-12	1003221
	NadPrep UDI Adapter Kit Set C2 (for Illumina®), 24 rxn	13-24	1003222
	NadPrep UDI Adapter Kit Set A (for Illumina®), 96 rxn	1-12	1003211
	NadPrep UDI Adapter Kit Set B (for Illumina®), 96 rxn	13-24	1003212
	NadPrep UDI Adapter Kit Set A&B (for Illumina®), 192 rxn	1-24	1003213
	NadPrep UDI Adapter Kit Set D1 (for Illumina®), 480 rxn	1-96	1003224

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