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NGS Multiplex Oligos for MGI (Index primer mix Set II)

Product Number: EK0616

Shipping and Storage

Storage condition: Store at -20℃, transport with ice packs.

Components

Component	96 rxns
Adaptor for MGI	480μL
Index primer Mix (49-96)for MGI	48×12L

Description

This kit provides Adaptors and Index primer Mix required for next-generation sequencing on the MGI platform and is specially designed for the MGI sequencing platform. The Adaptor has been optimized on the basis of the original MGI platform version. The improved universal Adaptor contains no Barcode sequence to facilitate automated operation, and possesses binding sites for Universal primer and Index primer. Barcode sequences are introduced via Index primers. The optimized adaptor can significantly improve library ligation efficiency, transformation efficiency and amplification efficiency.

This series consists of three kits:

EK0613: NGS Multiplex Adaptor & Primer Kit I (MGI Platform Barcode 1–48)

EK0616: NGS Multiplex Adaptor & Primer Kit II (MGI Platform Barcode 49–96)

EK0617: NGS Multiplex Adaptor & Primer Kit III (MGI Platform Barcode 97–128)

They cover Barcode sequences 1–128 for the MGI sequencing platform. Libraries prepared with this product are compatible with MGI sequencers including BGISEQ-500RS (PE50/PE100/PE150), MGISEQ-2000RS (PE100/PE150), and MGISEQ-200RS (PE100).

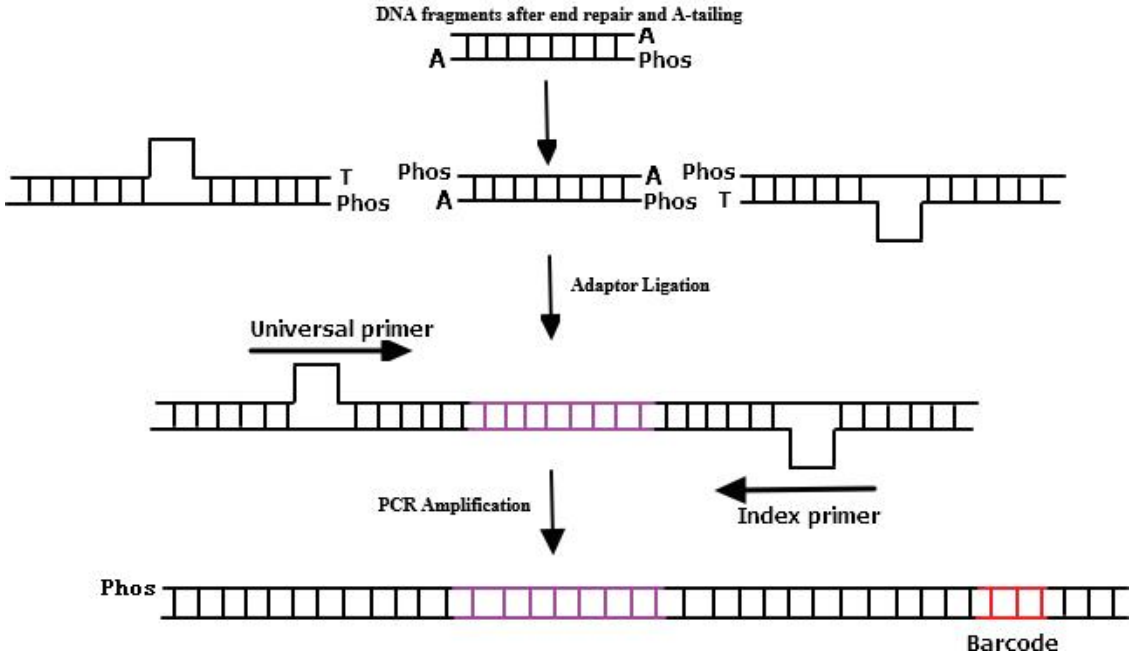
Self-supplied Instruments, Reagents and Consumables

1. Magnetic stand: DynaMag™-2 is recommended.
2. DNA Purification and Recovery Kit: Our magnetic bead-based DNA Purification and Recovery Kit (Cat.No. DNK2508) is recommended.
3. DNA library construction kit: Fast NGS Library Kit for Illumina&MGI (Cat.No. PCK85M) and Universal DNA Library Kit (Illumina&MGI) (Cat.No. PCK48) are recommended.
4. Anhydrous ethanol; Reaction tubes: low-binding PCR tubes and 1.5mL centrifuge tubes are recommended; Pipette tips: high-quality filter tips are recommended to prevent contamination of kits and library samples.

Pre-experiment Preparation and Important Notes

1. Adaptors are double-stranded. Do not store them above room temperature to avoid denaturation and loss of performance.
2. Briefly centrifuge index primers before opening the cap to collect liquid at the bottom of the tube and prevent cross-contamination between different primers.

Workflow



Structure of the constructed library

5'-TGTGAGCCAAGGAGTTG[barcode]TTGTCTTCCTAAGACCGCTTGGCCTCCG

ACTT[DNA insefi]AAGTCGGATCGTAGCCATGTCGTTC -3'

Barcode: 10 bases, see the Table below for specific sequences

DNA insert: Target sequencing sequence inserted

Protocol

The usage of NGS Multiplex Adaptor & Primer Kit III shall follow the protocol of Rapid DNA Library Preparation Kit (MGI Platform) (Cat.No. PCK85M).

Index primer Mix is formulated with Universal primer and Index primer, including 48 types of Index primers. According to different multiplex sequencing strategies, different Indexes can be added to each sample, or one set of Indexes can be added to a single sample. It is required that all Indexes in the pooled library are grouped by complete sets.

Among Index 49–96, 8 Indexes form one set: 49–56, 57–64, 65–72, 73–80, 81–88, and 89–96.

Table: Barcode 49-96 for MGI

Barcode 49	ATGTACGCAG	Barcode 73	GACAATGCTC
Barcode 50	TTAATGAGAT	Barcode 74	GCTAATCACA
Barcode 51	TGCGCCACTT	Barcode 75	AGTCCATAGG
Barcode 52	CATTAAGGCC	Barcode 76	CTATCGCCTA
Barcode 53	CCGCCTCAGA	Barcode 77	ATCGTGGTCT
Barcode 54	AATCGGCTCG	Barcode 78	TGGCTAATAC
Barcode 55	GCCGGTTATC	Barcode 79	CAGTGCAGAG
Barcode 56	GGAATATTGA	Barcode 80	TCAGGCTGGT
Barcode 57	ATTCAACGGA	Barcode 81	ATACTCACGC
Barcode 58	AACTGTACTG	Barcode 82	ATGCTCCGCG
Barcode 59	GTACCTCAAT	Barcode 83	TGTGAACTTG
Barcode 60	GACTTCTAAT	Barcode 84	GAGAGGTGCT
Barcode 61	TGAAGCGTTG	Barcode 85	TGCACTGTAA
Barcode 62	CGTGCGATCC	Barcode 86	GCCTAGGCAA

Barcode 63	TCGGAAGGCA	Barcode 87	CCATCATAGC
Barcode 64	CCGATGTCGC	Barcode 88	CATGGTAATT
Barcode 65	ACTTAGAATG	Barcode 89	CACCATGTCT
Barcode 66	TCCAAGCCTG	Barcode 90	ATATGTCTGG
Barcode 67	AGACGATGAT	Barcode 91	AAGGAAGCGT
Barcode 68	CTCACAAGAC	Barcode 92	TCAAGACGTC
Barcode 69	CGTTCCTACT	Barcode 93	CCGCTCAGTA
Barcode 70	GTGGTTGTGA	Barcode 94	GGTGTGTACA
Barcode 71	GAAGGCCTGC	Barcode 95	TTCACGTAAG
Barcode 72	TAGCTTGCCA	Barcode 96	GGTTCCACAC