

YWG™ MGI SI Full-length Adapter Operating instruction

(Cat#YG009,Version1.3)

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Introduction

YWG™ MGI SI Full-length Adapter is a DNA library construction adaptor kit for MGI high-throughput sequencing platform. YWG™ MGI SI Full Length Adapter is compatible with a variety of T-A ligated library construction kits.

The kit contains 96 different MGI single barcode adapter, and all the adapter provided in the kit have undergone strict quality control and functional validation to ensure the stability and reproducibility of the library construction to the maximum extent.

Experimental principle

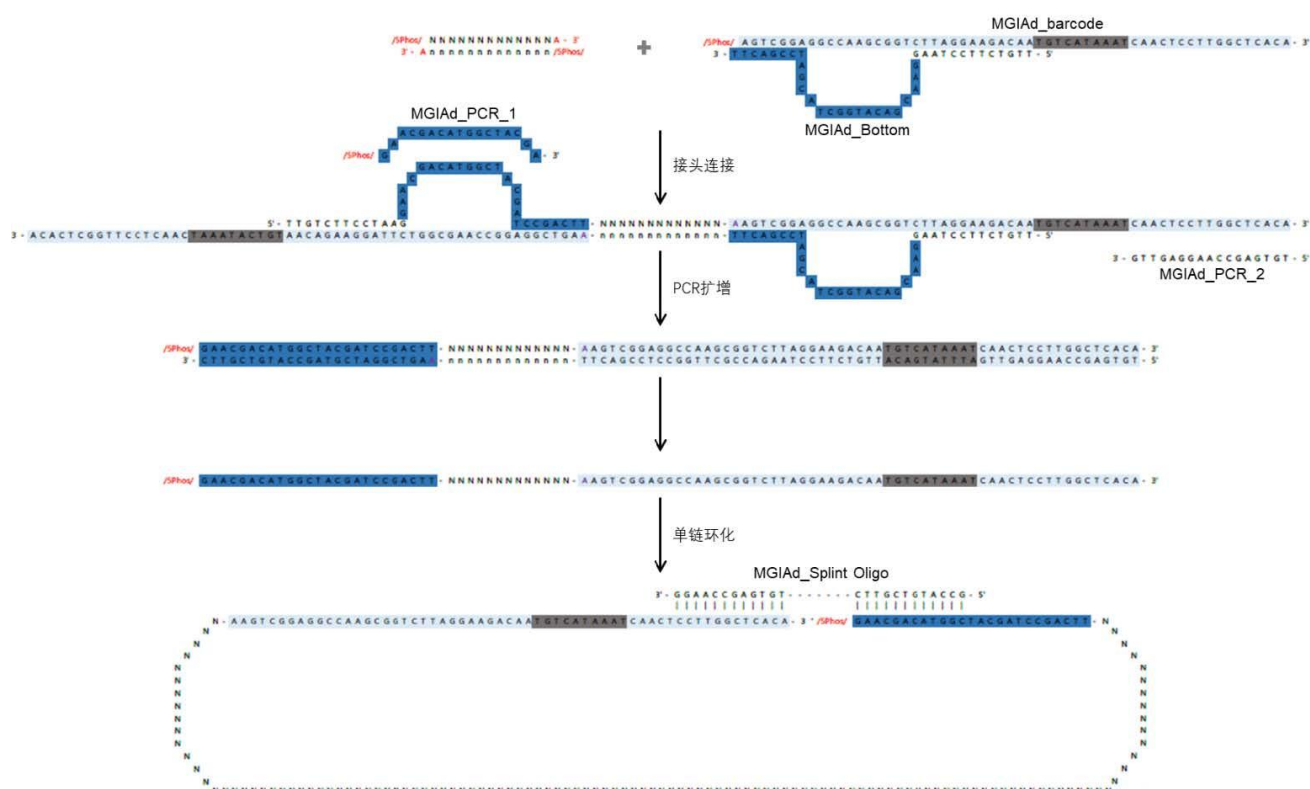


Figure 1. YWG™ MGI SI Full-length Adapter Library Construction Schematic
(Citation: DNBSEQ Platform Library Adapter, Primers and Barcode-V2)

Component

Catlog: YG009 Specifications: 24 rxns / 96 rxns

Component	Concentration	24rxns(YG009-024)	96rxn(YG009-096)
YWG SI Full Length Adapter*	15 μ mol/each	5 μ L*24 tube	5 μ L*96 plate
YWG MGI SI Library Primer	20 μ mol	120 μ L	480 μ L

⬆ * The amount of DNA library adapter input depends on the amount of DNA sample input, refer to the attached table for the specific concentration.

Storage conditions

-20°C Storage, 4°C delivery.

Application scope

DNA library construction for MGI platform , suitable for gDNA , cDNA , FFPE DNA , Cell-Free DNA and so on.

Sequencing Platform

MGI 200, MGI 2000, MGI T7, MGI G99 etc.

Notice

The amount of library adapter to be used depends on the amount of DNA required by the different kits, please refer to the table below if you are using the matching library construction kits, if cfDNA input, donot do the adapter dilution.

Input DNA	Dilution times	Concentration
1μg ~ 50 ng	NO	15 μM
49 ng ~ 25 ng	2X dilution	7.5 μM
24 ng ~ 10 ng	5X dilution	3 μM
9 ng ~ 5 ng	10X dilution	1.5 μM
<5 ng	20X dilution	0.75 μM

 **Notice:** YWG™ SI Full Length Adapter original concentration is 15 μmol.

Adapter Information

1. Adapter Structure

1.1 YWG SI Full Length Adapter for MGI

Name	Sequence
YWG SI Full Length Adapter	5'-p-AGTCGGAGGCCAAGCGGTCTTAGGAAGACAA [barcode_1] CAACTCCTTGGCTCAC(S)A TTGTCTTCCTAAGGAACGACATGGCTACGATCCGACT(S)T
P stand for phosphorylation modification, (S)stand for thio-modification, [barcode_1] stand for barcode sequence.	

1.2 YWG MGI SI Library Primer

Name	Sequence
MGI-SI PCR Primer-1	5'-p-GAACGACATGGCTACG(S)A
MGI-SI PCR Primer-2	TGTGAGCCAAGGAGTT(S)G
p stand for phosphorylation modification, (S)stand for thio-modification	

2. Primer Plate-Barcode Sequence

2.1 Primer Sequence

Primer name	Barcode_1
YWG SI_L_Barcode_1	TAGGTCCGAT
YWG SI_L_Barcode_2	GGACGGAATC
YWG SI_L_Barcode_3	CTTACTGCCG
YWG SI_L_Barcode_4	ACCTAATTGA
YWG SI_L_Barcode_13	CGGCAATCCG
YWG SI_L_Barcode_14	ATCAGGATTC
YWG SI_L_Barcode_15	TCATTCCAGA
YWG SI_L_Barcode_16	GATGCTGGAT
YWG SI_L_Barcode_25	TAGAGGACAA
YWG SI_L_Barcode_26	CCTAGCGAAT
YWG SI_L_Barcode_28	GCTGAGCTGT

Primer name	Barcode_1
YWG SI_L_Barcode_29	AACCTAGATA
YWG SI_L_Barcode_30	TTGCCATCTC
YWG SI_L_Barcode_32	CGCTATCGGC
YWG SI_L_Barcode_33	GCAACGATGG
YWG SI_L_Barcode_34	TAATCGTTCA
YWG SI_L_Barcode_35	GTTCGCTCTA
YWG SI_L_Barcode_36	TCTCACACAT
YWG SI_L_Barcode_37	CTGTTAGGAT
YWG SI_L_Barcode_38	CGCAGACGCG
YWG SI_L_Barcode_39	AAGGATCATC
YWG SI_L_Barcode_41	TTAGATGCAT
YWG SI_L_Barcode_42	GTCCAGAGCT
YWG SI_L_Barcode_43	CACGTGATAG
YWG SI_L_Barcode_44	CCACTAGTCC
YWG SI_L_Barcode_45	TGGACTTGGC
YWG SI_L_Barcode_46	GCTTGACAGG
YWG SI_L_Barcode_47	AAGACCTCTA
YWG SI_L_Barcode_48	AGTTGCCATA
YWG SI_L_Barcode_49	ATGTACGCAG
YWG SI_L_Barcode_50	TTAATGAGAT
YWG SI_L_Barcode_51	TGCGCCACTT
YWG SI_L_Barcode_52	CATTAAGGCC
YWG SI_L_Barcode_53	CCGCCTCAGA
YWG SI_L_Barcode_55	GCCGGTTATC
YWG SI_L_Barcode_56	GGAATATTGA
YWG SI_L_Barcode_57	ATTCAACGGA
YWG SI_L_Barcode_58	AACTGTACTG
YWG SI_L_Barcode_59	GTACCTCAAT
YWG SI_L_Barcode_60	GACTTCTAAT
YWG SI_L_Barcode_61	TGAAGCGTTG

Primer name	Barcode_1
YWG SI_L_Barcode_62	CGTGCGATCC
YWG SI_L_Barcode_63	TCGGAAGGCA
YWG SI_L_Barcode_64	CCGATGTCGC
YWG SI_L_Barcode_65	ACTTAGAATG
YWG SI_L_Barcode_66	TCCAAGCCTG
YWG SI_L_Barcode_67	AGACGATGAT
YWG SI_L_Barcode_68	CTCACAAGAC
YWG SI_L_Barcode_69	CGTTCCTACT
YWG SI_L_Barcode_70	GTGGTTGTGA
YWG SI_L_Barcode_71	GAAGGCCTGC
YWG SI_L_Barcode_72	TAGCTTGCCA
YWG SI_L_Barcode_73	GACAATGCTC
YWG SI_L_Barcode_74	GCTAATCACA
YWG SI_L_Barcode_75	AGTCCATAGG
YWG SI_L_Barcode_76	CTATCGCCTA
YWG SI_L_Barcode_77	ATCGTGGTCT
YWG SI_L_Barcode_78	TGGCTAATAC
YWG SI_L_Barcode_79	CAGTGCAGAG
YWG SI_L_Barcode_80	TCAGGCTGGT
YWG SI_L_Barcode_81	ATACTCACGC
YWG SI_L_Barcode_82	ATGCTCCGCG
YWG SI_L_Barcode_83	TGTGAACTTG
YWG SI_L_Barcode_84	GAGAGGTGCT
YWG SI_L_Barcode_85	TGCACTGTAA
YWG SI_L_Barcode_86	GCCTAGGCAA
YWG SI_L_Barcode_87	CCATCATAGC
YWG SI_L_Barcode_88	CATGGTAATT
YWG SI_L_Barcode_89	CACCATGTCT
YWG SI_L_Barcode_90	ATATGTCTGG
YWG SI_L_Barcode_91	AAGGAAGCGT

Primer name	Barcode_1
YWG SI_L_Barcode_92	TCAAGACGTC
YWG SI_L_Barcode_93	CCGCTCAGTA
YWG SI_L_Barcode_94	GGTGTGTACA
YWG SI_L_Barcode_95	TTCACGTAAG
YWG SI_L_Barcode_96	GGTTCCACAC
YWG SI_L_Barcode_97	AGGTATTCTT
YWG SI_L_Barcode_98	CGAATGCAAC
YWG SI_L_Barcode_99	TTCAACGGCG
YWG SI_L_Barcode_100	CTCGGCGGAA
YWG SI_L_Barcode_101	ACGGTAATGG
YWG SI_L_Barcode_102	GATCCGACGT
YWG SI_L_Barcode_103	TCACGATACA
YWG SI_L_Barcode_104	GATTCTCTTC
YWG SI_L_Barcode_114	CCAGAGTCAG
YWG SI_L_Barcode_115	AACAGGCAGT
YWG SI_L_Barcode_116	GCTCCATGAC
YWG SI_L_Barcode_117	ATGTCTATCC
YWG SI_L_Barcode_121	CCTTGATCAA
YWG SI_L_Barcode_122	GGAAGTGGCA
YWG SI_L_Barcode_123	AACATTCTAC
YWG SI_L_Barcode_124	GACGCGAGTC
YWG SI_L_Barcode_125	CTATAACACT
YWG SI_L_Barcode_126	AGTCTCGTGT
YWG SI_L_Barcode_127	TCGGCCTATG
YWG SI_L_Barcode_128	TTGCAGACGG

2.2 Plate Barcode Location

	1	2	3	4	5	6	7	8	9	10	11	12
A	01	41	57	65	73	81	89	97	121	25	33	49
B	02	42	58	66	74	82	90	98	122	26	34	50
C	03	43	59	67	75	83	91	99	123	117	35	51
D	04	44	60	68	76	84	92	100	124	28	36	52
E	13	45	61	69	77	85	93	101	125	29	37	53
F	14	46	62	70	78	86	94	102	126	30	38	116
G	15	47	63	71	79	87	95	103	127	114	39	55
H	16	48	64	72	80	88	96	104	128	32	115	56

Figure 2. Plate Barcode Location

2.3 Primer Set Usage Principle

Based on the design principle of base balance, it is necessary to use the adapter in groups. The adapter included in this kit have the following grouping rules, and it is recommended to use them with the Barcode in the colour box.

	1	2	3	4	5	6	7	8	9	10	11	12
A	01	41	57	65	73	81	89	97	121	25	33	49
B	02	42	58	66	74	82	90	98	122	26	34	50
C	03	43	59	67	75	83	91	99	123	117	35	51
D	04	44	60	68	76	84	92	100	124	28	36	52
E	13	45	61	69	77	85	93	101	125	29	37	53
F	14	46	62	70	78	86	94	102	126	30	38	116
G	15	47	63	71	79	87	95	103	127	114	39	55
H	16	48	64	72	80	88	96	104	128	32	115	56

Figure 3. YWG™ SI Full Length Adapter Set for MGI (plate) Barcode Distributions

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