DNBSEQ Dual Barcode Adapter & Barcode Sequences

MGI Tech Co., Ltd.

Announcement

This document lists the dual-adapter sequences of *MGIEasy UDB Universal Library Prep Set/MGIEasy UMI Universal Library Prep Set* for DNBSEQ Platforms. This document aimed for a better understanding of dual barcode sequencing data and a guideline of Adapter Trimming.

This guide only lists the information of *MGIEasy UDB Universal Library Prep Set/MGIEasy UMI Universal Library Prep Set*. MGI won't provide information like the quality, composition, or compatibility about the reagents from other suppliers. Also, we won't provide support for the stability, pollution, sequencing quality of unauthorized suppliers.

Version History

Doc. Version	Kit Version	Date	Description
3.0	V1.0	Mar. 2022	◆ Update Manufacturer LOGO
A1	V1.0	Mar. 2021	◆ fix the wrong sequence of UDB-100/UDB-101
A0	V1.0	Nov. 2020	◆ Initial release

Introduction

For product detail information, visit the MGI website(https://en.mgi-tech.com) to find the protocol of the product.

There is no Pooling guide in this document. Check ***Dual Barcode Pooling Guide*** for related recommendations.

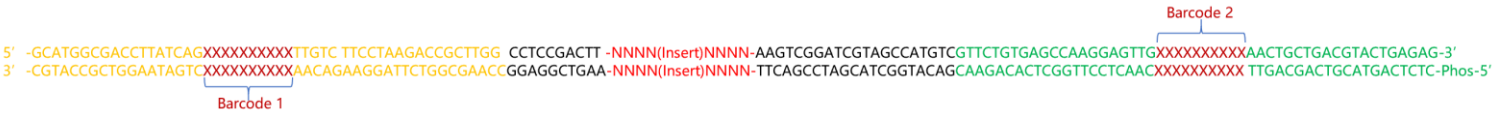
There is no sequencing guide in this document. Check ***DNBSEQ Platform Sequencing Primer Reference Guide*** for related recommendations.

Dual Barcode naming Rules

MGI Dual barcodes contains "barcode 1" and "barcode 2", which are named by sequencing location. Check the PCR Product structure below:

Barcode1：based on the strand with 5'Phos, the barcode which is far away from the 5'Phos is named "Barcode 1"

Barcode2：based on the strand with 5'Phos, the barcode which nears the 5'Phos is named "Barcode 2"



MGI renamed the barcode as "UDB-1", "UDB-2". We will introduce the barcode sequence in the next chapter. Library with different UDB number can be pooled together.

Dual Barcode Adapter Trimming Sequences

"Dual Barcode Adapter Trimming Sequences" is used to trim the adapter sequences in the data. Adapter sequences could be caused by multiple adapter ligation or reads length set beyond the DNA insert. The adapter sequences should be trimmed in both 5' ends and 3' ends

	Sequence
Forward filter:	AAGTCGGAGGCCAAGCGGTCTTAGGAAGACAA
Reverse filter:	AAGTCGGATCGTAGCCATGTCGTTCTGTGAGCCAAGGAGTTG

MGIEasy UDB/UMI Library Prep set barcode sequence

MGIEasy UDB/UMI Library Prep set are recommended Library Prep. Set for DNBSEQ Platform.

Product	Lot. No.	Barcode Group	Specifications
MGIEasy UDB Primers Adapter Kit A	1000022801	Set A	96 RXN
MGIEasy UDB Primers Adapter Kit B	1000022802	Set B	96 RXN
MGIEasy UDB Universal Library Prep Set	1000022803	Set A	16 RXN
MGIEasy UDB Universal Library Prep Set	1000022804	Set B	96 RXN
MGIEasy UDB Universal Library Prep Set	1000022805	Set A+ Set B	192 RXN
MGIEasy Duplex UMI Universal Library Prep Set	1000018643	Set A	16 RXN
MGIEasy Duplex UMI Universal Library Prep Set	1000019376	Set A	96 RXN

⚠ **Set B is the only workable set for pooling with other libraries not listed above (like Amplicon libraries). Check the Pooling plan before purchase.**

The dual barcode sets are predetermined and named as "UDB-XX" in MGIEasy UDB/UMI Library Prep set. The correspondences are listed in table 1. Check ***DNBSEQ Platform Sequencing Primer Reference Guide*** for detail guidance about editing barcode.csv file

Table 1 barcode sequence in MGIEasy UDB/UMI Library Prep set

	barcode 1/2 ID		Sequence used in editing barcode.csv file	
UDB ID	Barcode 1 ID	Barcode 2 ID	Barcode 1 Sequence	Barcode 2 Sequence
UDB-1	17	25	GTGAGTGATG	TAGAGGACAA
UDB-2	18	26	GAGTCAGCTG	CCTAGCGAAT
UDB-3	19	27	TGTCTGCGAA	GTAGTCATCG
UDB-4	20	28	ATTGGTACAA	GCTGAGCTGT

UDB-5	21	29	CGATTGTGGT	AACCTAGATA
UDB-6	22	30	ACAGACTTCC	TTGCCATCTC
UDB-7	23	31	TCCACACTCT	AGATCTTGCG
UDB-8	24	32	CACCACAAGC	CGCTATCGGC
UDB-9	25	33	TAGAGGACAA	GCAACGATGG
UDB-10	26	34	CCTAGCGAAT	TAATCGTTCA
UDB-11	27	35	GTAGTCATCG	GTTCGCTCTA
UDB-12	28	36	GCTGAGCTGT	TCTCACACAT
UDB-13	29	37	AACCTAGATA	CTGTTAGGAT
UDB-14	30	38	TTGCCATCTC	CGCAGACGCG
UDB-15	31	39	AGATCTTGCG	AAGGATCATC
UDB-16	32	40	CGCTATCGGC	AGCGTTGAGC
UDB-17	33	41	GCAACGATGG	TTAGATGCAT
UDB-18	34	42	TAATCGTTCA	GTCCAGAGCT
UDB-19	35	43	GTTCGCTCTA	CACGTGATAG
UDB-20	36	44	TCTCACACAT	CCACTAGTCC
UDB-21	37	45	CTGTTAGGAT	TGGACTTGGC
UDB-22	38	46	CGCAGACGCG	GCTTGACAGG
UDB-23	39	47	AAGGATCATC	AAGACCTCTA
UDB-24	40	48	AGCGTTGAGC	AGTTGCCATA
UDB-25	41	49	TTAGATGCAT	ATGTACGCAG
UDB-26	42	50	GTCCAGAGCT	TTAATGAGAT
UDB-27	43	51	CACGTGATAG	TGCGCCACTT
UDB-28	44	52	CCACTAGTCC	CATTAAGGCC
UDB-29	45	53	TGGACTTGGC	CCGCCTCAGA
UDB-30	46	54	GCTTGACAGG	AATCGGCTCG
UDB-31	47	55	AAGACCTCTA	GCCGGTTATC
UDB-32	48	56	AGTTGCCATA	GGAATATTGA

UDB-33	49	57	ATGTACGCAG	ATTCAACGGA
UDB-34	50	58	TTAATGAGAT	AACTGTACTG
UDB-35	51	59	TGCGCCACTT	GTACCTCAAT
UDB-36	52	60	CATTAAGGCC	GACTTCTAAT
UDB-37	53	61	CCGCCTCAGA	TGAAGCGTTG
UDB-38	54	62	AATCGGCTCG	CGTGCGATCC
UDB-39	55	63	GCCGGTTATC	TCGGAAGGCA
UDB-40	56	64	GGAATATTGA	CCGATGTCGC
UDB-41	57	65	ATTCAACGGA	ACTTAGAATG
UDB-42	58	66	AACTGTACTG	TCCAAGCCTG
UDB-43	59	67	GTACCTCAAT	AGACGATGAT
UDB-44	60	68	GACTTCTAAT	CTCACAAGAC
UDB-45	61	69	TGAAGCGTTG	CGTTCCTACT
UDB-46	62	70	CGTGCGATCC	GTGGTTGTGA
UDB-47	63	71	TCGGAAGGCA	GAAGGCCTGC
UDB-48	64	72	CCGATGTCGC	TAGCTTGCCA
UDB-49	65	73	ACTTAGAATG	GACAATGCTC
UDB-50	66	74	TCCAAGCCTG	GCTAATCACA
UDB-51	67	75	AGACGATGAT	AGTCCATAGG
UDB-52	68	76	CTCACAAGAC	CTATCGCCTA
UDB-53	69	77	CGTTCCTACT	ATCGTGGTCT
UDB-54	70	78	GTGGTTGTGA	TGGCTAATAC
UDB-55	71	79	GAAGGCCTGC	CAGTGCAGAG
UDB-56	72	80	TAGCTTGCCA	TCAGGCTGGT
UDB-57	73	81	GACAATGCTC	ATACTCACGC
UDB-58	74	82	GCTAATCACA	ATGCTCCGCG
UDB-59	75	83	AGTCCATAGG	TGTGAACTTG
UDB-60	76	84	CTATCGCCTA	GAGAGGTGCT

UDB-61	77	85	ATCGTGGTCT	TGCACTGTAA
UDB-62	78	86	TGGCTAATAC	GCCTAGGCAA
UDB-63	79	87	CAGTGCAGAG	CCATCATAGC
UDB-64	80	88	TCAGGCTGGT	CATGGTAATT
UDB-65	81	89	ATACTCACGC	CACCATGTCT
UDB-66	82	90	ATGCTCCGCG	ATATGTCTGG
UDB-67	83	91	TGTGAACTTG	AAGGAAGCGT
UDB-68	84	92	GAGAGGTGCT	TCAAGACGTC
UDB-69	85	93	TGCACTGTAA	CCGCTCAGTA
UDB-70	86	94	GCCTAGGCAA	GGTGTGTACA
UDB-71	87	95	CCATCATAGC	TTCACGTAAG
UDB-72	88	96	CATGGTAATT	GGTTCCACAC
UDB-73	89	97	CACCATGTCT	AGGTATTCTT
UDB-74	90	98	ATATGTCTGG	CGAATGCAAC
UDB-75	91	99	AAGGAAGCGT	TTCAACGGCG
UDB-76	92	100	TCAAGACGTC	CTCGGCGGAA
UDB-77	93	101	CCGCTCAGTA	ACGGTAATGG
UDB-78	94	102	GGTGTGTACA	GATCCGACGT
UDB-79	95	103	TTCACGTAAG	TCACGATACA
UDB-80	96	104	GGTTCCACAC	GATTCTCTTC
UDB-81	147	131	AGCTGCGCAC	ATTCAAGTTC
UDB-82	148	132	GATTAATGAA	ACGGCTTCCG
UDB-83	149	133	CCAATGCTTG	CAATGGCAGA
UDB-84	150	134	TTGCCTATGT	GGCATCAGAT
UDB-85	151	135	AACGCTCACG	TAACCTGAAC
UDB-86	152	136	CCGATCGGCC	CCGTAGATCA
UDB-87	153	137	TTAGGAACTA	TGTATATCGG
UDB-88	154	138	GGTCAGTAGT	GTCGGCCGTT

UDB-89	155	139	TGCCGGATCA	TGCATGACGA
UDB-90	156	140	ACTCATGACC	GCATAGCGTA
UDB-91	157	141	CAAGTCTCAT	AAGCCTGTAG
UDB-92	158	142	GTGACATGTG	CTTGGATACT
UDB-93	159	143	AAGTACCTGG	AACTACGTCC
UDB-94	160	144	CCTATAGCAC	CCGGTCTAAC
UDB-95	161	145	TTCGGTCAGT	TTACGACCGG
UDB-96	162	146	GGATCGAGTA	GGTACTAGTT
UDB-97	323	163	AGGACGTAGA	TATGGCACTG
UDB-98	324	164	CTGAACCGAA	GTTAGGTAGG
UDB-99	325	165	GAACGTGTCG	ACACATGTCA
UDB-100	326	166	TCCGTGACTC	CGCTCACGAT
UDB-101	327	167	AATTCACTGT	AAGCTCTGTC
UDB-102	328	168	CCTGAAGGAT	CCAGAGATCT
UDB-103	329	169	TTCCTTACTG	GTGATTGCAC
UDB-104	330	170	GGATGCTACC	TGCTCACAGA
UDB-105	331	171	CGACGATATG	GTGATCTAGA
UDB-106	332	172	GACGGTCGAG	TCTGTATAGT
UDB-107	333	173	ACGAAGGTCC	AACCGTCGTC
UDB-108	334	174	TTAACGACGA	CGATAGGTCG
UDB-109	335	175	AATTCCGAGT	AACGCAACTA
UDB-110	336	176	CCTGTAACCA	CCATACATAT
UDB-111	337	177	TTGCTTCGTT	TTGAGTCGAC
UDB-112	338	178	GGCTACTTAC	GGTCCGGCCG
UDB-113	339	179	TAATGGCCTT	AGAGTACGAC
UDB-114	340	180	GTGACCGGTA	ATCGAAGGTA
UDB-115	341	181	ACCGATTAGG	CAGACGTTGG
UDB-116	342	182	CGTCTGATAT	GCTCGTAACT

UDB-117	343	183	AACGCATTCC	TAATCTACTT
UDB-118	344	184	CCGAGAGACC	CCGTACCTGA
UDB-119	345	185	TGATTCCGAG	GTCATGGACG
UDB-120	346	186	GTTCATACGA	TGTCGCTCAC
UDB-121	355	195	TAGACTGATC	TCGATCGAGT
UDB-122	356	196	GATTCCATGA	AGTAAGCCGG
UDB-123	357	197	ACACAGTGCT	CAACCTTGCC
UDB-124	358	198	CGCGTACCAG	GTCGGAATTA
UDB-125	359	199	ATACGCTAGA	AACTACTGAG
UDB-126	360	200	CCGGATACTC	CCATCGGAAT
UDB-127	361	201	TGCTTGCGCG	TTGGTTCCTA
UDB-128	362	202	GTTAGAGTAT	GGTCGAATCC
UDB-129	379	219	TGCTATGCAC	GTAGGATTCC
UDB-130	380	220	GTGCATAGAG	CGTCGTTGCA
UDB-131	381	221	AATGCGTACT	AACTAGGCTT
UDB-132	382	222	CCAGGACCTA	TCGACGCAGG
UDB-133	383	223	AAGCTCATGA	AACGTCAGAC
UDB-134	384	224	CCTAGAGTTG	CCATCTGATA
UDB-135	385	225	TGCATCCGGT	TGTATCACGT
UDB-136	386	226	GTATCGTACC	GTGCAACTAG
UDB-137	387	227	GTATCGAATT	TATGGATCGT
UDB-138	388	228	CGTACTACGT	AGCTGAATGG
UDB-139	389	229	AACGTACTCG	CCAACTGGCC
UDB-140	390	230	TCGCACTGAC	GTGCAGCATA
UDB-141	391	231	AACTGTGTGA	AACGACCAAT
UDB-142	392	232	CCGATGCACA	CCATTCGGCA
UDB-143	393	233	TGTGACGCAG	TGTATGATTC
UDB-144	394	234	GTACGATGTC	GTGCCTTCAG

UDB-145	395	235	CTCGTTCCGG	GGCTGGCTTG
UDB-146	396	236	CGTGCCAGGA	CATAGAGACG
UDB-147	397	237	AAGCGATATC	ACACATTGAC
UDB-148	398	238	GCAACTGTCT	TTGGTCACGT
UDB-149	399	239	TAATGGTCAG	AACCTTCGGA
UDB-150	400	240	ACCTAGGACC	CCGACCATCC
UDB-151	401	241	TTGCACATTA	TTAGCATCAA
UDB-152	402	242	GGTATACGAT	GGTTAGGATT
UDB-153	403	243	CACACACAGG	GCGTCGTCTC
UDB-154	404	244	TAGTGCTGTC	AATCCTAGCC
UDB-155	405	245	ACACTGATAT	CGAAGCCTGT
UDB-156	406	246	GGTAATGCCT	TTCGAAGTAG
UDB-157	407	247	ATAGCACAGA	AACCGGTACA
UDB-158	408	248	CCTGACATCG	CCATTCAATG
UDB-159	409	249	TTGCTGTGAC	TTGGTAGCAA
UDB-160	410	250	GGCTGTGCTA	GGTAATCGGT
UDB-161	411	251	AGGCACTGCC	ACGACGAACG
UDB-162	412	252	CGTCGTTAAC	ACGTCTCAAC
UDB-163	413	253	GAAGTAATGT	CAACGCTGTA
UDB-164	414	254	TCCAGTGCTA	GGCAAGTCGT
UDB-165	415	255	ATATCGCAAG	TTAGTAGTTG
UDB-166	416	256	CACGCAGTTG	CATCGTCGGT
UDB-167	417	257	TTGATCCGGA	TTCGTCACAC
UDB-168	418	258	GCTTAGACCT	GGTTAAGTCA
UDB-169	419	259	GACAGATTGG	AGACTAAGGA
UDB-170	420	260	GAATTGGCCG	GCGTGATCGT
UDB-171	421	261	ACGCATCAAT	CACACTGATG
UDB-172	422	262	CGTGACAGTC	TTAGAGCTAC

UDB-173	423	263	TTAACTTGAA	AATCACTTCA
UDB-174	424	264	ACGCGACCGT	CCGATCACAG
UDB-175	425	265	TGTGTCATCA	TGTGCGCGTC
UDB-176	426	266	CTCTCGGATC	GTCTGTGACT
UDB-177	435	275	AGTAAGTGCT	AGATTAACCA
UDB-178	436	276	TATACTGCGT	AGCTATGCCG
UDB-179	437	277	CCAGTCCTTC	CAGACGTGTC
UDB-180	438	278	GTCCGTAAGG	GCTCGGCAAT
UDB-181	439	279	AAGTCATTAA	TTAGCCTTGG
UDB-182	440	280	CCGTTGGATC	CACGAACGTC
UDB-183	441	281	TTCGGACGCA	TCTCGTATGA
UDB-184	442	282	GGACACACAG	GTGATCGAAT
UDB-185	451	291	AGCTCTGTGT	TAGTACAGCA
UDB-186	452	292	CTGACGTTAC	GGATGTGTAC
UDB-187	453	293	GAACGCAGTG	ACCATGTATG
UDB-188	454	294	TCTGAACCGA	CTTCCAGCGT
UDB-189	455	295	AAGCTGAACC	AACGCGCTGG
UDB-190	456	296	CCTATATACA	CCGAACTCAT
UDB-191	457	297	TTCGGTCGTG	TGTCGTAGTC
UDB-192	458	298	GGATACGCAT	GTAGTACACA

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