



<b>INS1823V1.0</b>	<b>XCeloSeq UDI Sets 1-01 to 1-12 for Illumina</b>	<b>Status:</b>	<b>Issued</b>
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<b>Revision</b>	<b>Description of Change</b>	<b>Date</b>	<b>Author</b>
V1.0	Initial release alongside CN057	June 2022	Thomas Dunwell

## XCeloSeq® UDI Sets 1-01 to 1-12 for Illumina®

IDX1-01 to IDX1-12

### Product Description

The XCeloSeq Unique Dual Indexing (UDI) Sets allow for multiplexing of up to 96 different samples each with a unique combination of i5 and i7 indexes for next-generation sequencing on Illumina sequencing platforms. All index oligos undergo rigorous quality control procedures including generation and sequencing of indexed libraries to ensure high quality performance with all compatible XCeloSeq Library Preparation Kits.

Product Name	Product Code
XCeloSeq UDI Set 1-01 for Illumina	IDX1-01
XCeloSeq UDI Set 1-02 for Illumina	IDX1-02
XCeloSeq UDI Set 1-03 for Illumina	IDX1-03
XCeloSeq UDI Set 1-04 for Illumina	IDX1-04
XCeloSeq UDI Set 1-05 for Illumina	IDX1-05
XCeloSeq UDI Set 1-06 for Illumina	IDX1-06
XCeloSeq UDI Set 1-07 for Illumina	IDX1-07
XCeloSeq UDI Set 1-08 for Illumina	IDX1-08
XCeloSeq UDI Set 1-09 for Illumina	IDX1-09
XCeloSeq UDI Set 1-10 for Illumina	IDX1-10
XCeloSeq UDI Set 1-11 for Illumina	IDX1-11
XCeloSeq UDI Set 1-12 for Illumina	IDX1-12

### XCeloSeq Library Prep Kits which require UDI Sets 1-01 to 1-12

All XCeloSeq targeted cfDNA and targeted RNA Enrichment Kits are compatible with UDI sets 1-01 to 1-12, these include:

Product Name	Product Code
XCeloSeq Pan Cancer cfDNA kit	SEQ002
XCeloSeq Colon Cancer cfDNA kit	SEQ009
XCeloSeq Lung Cancer cfDNA kit	SEQ010
XCeloSeq Breast Cancer cfDNA kit	SEQ011
XCeloSeq Actionable cfDNA kit	SEQ016

Product Name	Product Code
XCeloSeq Fusion Research Kit	SEQ007
XCeloSeq Lung Cancer Fusion Kit	SEQ008
XCeloSeq Solid Cancer Fusion Kit	SEQ012
XCeloSeq Sarcoma Fusion Kit	SEQ014
XCeloSeq Actionable Fusion Kit	SEQ015
XCeloSeq Myeloid Fusion Kit	SEQ017
XCeloSeq Lymphoma Fusion Kit	SEQ018
XCeloSeq ALL Fusion Kit	SEQ019

## Multiplexing and Sample Requirements – cfDNA Enrichment Kits

**Note: The information on this page only applies when using XCelSeq Targeted cfDNA Enrichment Kits. If using XCelSeq Targeted RNA Enrichment Kits, please see page 3.**

When purchasing UDI Sets for use in combination with any of the XCelSeq Targeted cfDNA Enrichment Kits, please refer to the tables below to determine how many UDI sets are required for different levels of multiplexing and for different total numbers of samples. Up to 96 samples can be multiplexed together when purchasing all 12 Sets. Each UDI combination contains enough for 8 samples, for a total of 64 samples for every UDI Set.

When determining how many UDI Sets are required to allow for different levels of sample multiplexing, please refer to the table below.

Number of Samples to be Multiplexed in a Single Sequencing Run	Unique UDI Sets Required	Suggested Combination of UDI Sets
1 to 8	1	1-01 only
9 to 16	2	1-01 and 1-02
17 to 24	3	1-01 to 1-03
25 to 32	4	1-01 to 1-04
33 to 40	5	1-01 to 1-05
41 to 48	6	1-01 to 1-06
49 to 56	7	1-01 to 1-07
57 to 64	8	1-01 to 1-08
65 to 72	9	1-01 to 1-09
73 to 80	10	1-01 to 1-10
81 to 88	11	1-01 to 1-11
89 to 96	12	1-01 to 1-12

When determining UDI Set requirements for processing a fixed number of samples, please refer to the table below as an example. (Note: Please do still consider multiplexing requirements using the previous table).

Total Number of Samples to Be Processed	Total Number of UDI Sets Required
1 to 64	1
65 to 128	2
129 to 192	3
193 to 256	4
257 to 320	5
321 to 384	6
385 to 448	7
449 to 512	8
513 to 576	9
577 to 640	10
641 to 704	11
705 to 768	12

## Multiplexing and Sample Requirements – RNA Enrichment Kits

**Note: The information on this page only applies when using XCellSeq Targeted RNA Enrichment Kits. If using XCellSeq Targeted cfDNA Enrichment Kits, please see page 2.**

When purchasing UDI Sets for use in combination with any of the XCellSeq Targeted RNA Enrichment Kits, please refer to the tables below to determine how many UDI Sets are required for different levels of multiplexing and for different total numbers of samples. Up to 96 samples can be multiplexed together when purchasing all 12 Sets. Each UDI combination contains enough for 16 samples, for a total of 128 samples for every UDI Set.

When determining how many UDI Sets are required to allow for different levels of sample multiplexing, please refer to the table below.

Number of Samples to be Multiplexed in a Single Sequencing Run	Unique UDI Sets Required	Suggested Combinations of UDI Sets
1 to 8	1	1-01 only
9 to 16	2	1-01 and 1-02
17 to 24	3	1-01 to 1-03
25 to 32	4	1-01 to 1-04
33 to 40	5	1-01 to 1-05
41 to 48	6	1-01 to 1-06
49 to 56	7	1-01 to 1-07
57 to 64	8	1-01 to 1-08
65 to 72	9	1-01 to 1-09
73 to 80	10	1-01 to 1-10
81 to 88	11	1-01 to 1-11
89 to 96	12	1-01 to 1-12

When determining UDI Set requirements for processing a fixed number of samples, please refer to the table below as an example. (Note: Please do still consider multiplexing requirements using the previous table).

Total Number of Samples to Be Processed	Total Number of UDI Sets Required
1 to 128	1
129 to 256	2
257 to 384	3
385 to 512	4
513 to 640	5
641 to 768	6
769 to 896	7
897 to 1024	8
1025 to 1152	9
1153 to 1280	10
1281 to 1408	11
1409 to 1536	12

## Index Sequences

Expected index sequence is dependent upon choice of Illumina sequencing platform. Please refer to the below table for more details.

			Expected i5 Index Sequence*	
			NovaSeq 6000 with v1.0 reagent kits, MiniSeq with Rapid reagent kits, MiSeq, HiSeq 2000/2500 (paired-end flow cell), HiSeq 3000/4000 (single-read flow cell)	iSeq 100, MiniSeq with Standard reagent kits, NextSeq Systems, NovaSeq 6000 with v1.5 reagent kits, HiSeq 2000/2500 (single-read flow cell), HiSeq 3000/4000 (paired-end flow cell)
	UDI Name	Expected i7 Index Sequence		
UDI Set 1-01  IDX1-01	1-01-001	TTACCGAC	GTCTACAG	CTGTAGAC
	1-01-002	AGTGACCT	TGCTACGA	TCGTAGCA
	1-01-003	TCGGATTC	GTCGTTGT	ACAACGAC
	1-01-004	CAAGGTAC	ATCCAAGC	GCTTGGAT
	1-01-005	TCCTCATG	CGCATTCA	TGAATGCG
	1-01-006	GTCAGTCA	ATGACACG	CGTGTCAT
	1-01-007	CGAATACG	AACTACGG	CCGTAGTT
	1-01-008	TCTAGGAG	GAGGCTTA	TAAGCCTC
UDI Set 1-02  IDX1-02	1-02-009	CGCAACTA	GACTTCGT	ACGAAGTC
	1-02-010	CGTATCTC	AGACTCAC	GTGAGTCT
	1-02-011	GTACACCT	TCTGCTTC	GAAGCAGA
	1-02-012	CGGCATTA	GAGGACTT	AAGTCCTC
	1-02-013	TCGTCTGA	TCCTCGAT	ATCGAGGA
	1-02-014	AAGACACC	AAGCAGGA	TCCTGCTT
	1-02-015	CCAGTTGA	TTCTAGGC	GCCTAGAA
	1-02-016	AGACCTTG	GCGTAACT	AGTTACGC

UDI Set 1-03	1-03-017	AGGATAGC	GTGATCCA	TGGATCAC	
	1-03-018	CCTTCCAT	GTGCAGTT	AACTGCAC	
	1-03-019	GTCCTTGA	GACCGTAA	TTACGGTC	
	1-03-020	TGCGTAAC	TGATCGTC	GACGATCA	
	IDX1-03	1-03-021	CACAGACT	GTTCAAGG	CCTTGAAC
		1-03-022	TTACGTGC	CCATTCGT	ACGAATGG
		1-03-023	CCAAGGTT	AGTATGCC	GGCATACT
		1-03-024	CACGCAAT	AGAGCACT	AGTGCTCT
UDI Set 1-04	1-04-025	TTCCAGGT	TGTGCATG	CATGCACA	
	1-04-026	TCATCTCC	ATAGACGG	CCGTCTAT	
	1-04-027	GAGAGTAC	CATTCCAC	GTGGAATG	
	1-04-028	GTCGTTAC	TCCATGTC	GACATGGA	
	IDX1-04	1-04-029	GGAGGAAT	CATGTGAC	GTCACATG
		1-04-030	AGGAACAC	AGGAGATC	GATCTCCT
		1-04-031	CAGTGCTT	GTCAGTTG	CAACTGAC
		1-04-032	CTTGCTAG	CCAACGAA	TTCGTTGG
UDI Set 1-05	1-05-033	TGGAAGCA	CTCATTGG	CCAATGAG	
	1-05-034	AGCTAAGC	CCTCAGAA	TTCTGAGG	
	1-05-035	GAACGGTT	GGATTGAG	CTCAATCC	
	1-05-036	AGCCTATC	CACCTTGT	ACAAGGTG	
	IDX1-05	1-05-037	TACGGTCT	TATGACGG	CCGTCATA
		1-05-038	CCAGTATC	CTACCGTT	AACGGTAG
		1-05-039	TCTACGCA	GGTTACAC	GTGTAACC
		1-05-040	GTAACCGA	CTGTCCAT	ATGGACAG

UDI Set 1-06	1-06-041	GACGTCAT	AGGCACTT	AAGTGCCT	
	1-06-042	CTTACAGC	CGTCATAC	GTATGACG	
	1-06-043	TCCATTGC	GTCGATCA	TGATCGAC	
	1-06-044	AGCGAGAT	GTACGTCA	TGACGTAC	
	IDX1-06	1-06-045	CAATAGCC	CGACGATT	AATCGTCG
		1-06-046	GGAATGTC	ACATCCTC	GAGGATGT
		1-06-047	CTGTACCA	CTGTAGCT	AGCTACAG
		1-06-048	TGGTGAAG	TATAGCCT	AGGCTATA
UDI Set 1-07	1-07-049	AAGACCGT	ATCACTAT	ATAGTGAT	
	1-07-050	CAGGTTCA	GCTTGCGC	GCGCAAGC	
	1-07-051	GCAATTCC	AGTATCTT	AAGATACT	
	1-07-052	GAATCCGT	GACGCTCC	GGAGCGTC	
	IDX1-07	1-07-053	GGTTGAAC	ACTGCCAT	ATGGCAGT
		1-07-054	TACCTGCA	TGCATTGC	GCAATGCA
		1-07-055	GTCGATTG	ATTGGAAC	GTTCCAAT
		1-07-056	TATGGCAC	GCACAGGT	ACCTGTGC
UDI Set 1-08	1-08-057	CTCGAACA	CGAGATAT	ATATCTCG	
	1-08-058	CAACTCCA	TAGAGCGC	GCGCTCTA	
	1-08-059	GTCATCGT	AACCTGTT	AACAGGTT	
	1-08-060	GGACATCA	GGTTCACC	GGTGAACC	
	IDX1-08	1-08-061	TTGCGAGA	CATTGTTG	CAACAATG
		1-08-062	GAACGAAG	TTCCACCA	TGGTGGAA
		1-08-063	CTCAGAAG	CGCTGCAT	ATGCAGCG
		1-08-064	CATGAGCA	TCTCATGA	TCATGAGA

UDI Set 1-09	1-09-065	GACGAACT	ACGCCGCA	TGCGGCGT	
	1-09-066	AGACGCTA	GTATTATG	CATAATAC	
	1-09-067	ATAACGCC	GATAGATC	GATCTATC	
	1-09-068	GAATCACC	AGCGAGCT	AGCTCGCT	
	IDX1-09	1-09-069	GGCAAGTT	CAGTGACT	AGTCACTG
		1-09-070	GATCTTGC	TGACCTTA	TAAGGTCA
		1-09-071	CAATGCGA	CTAGGCAA	TTGCCTAG
		1-09-072	GGTGTACA	TCGAATGG	CCATTCGA
UDI Set 1-10	1-10-073	TAGGAGCT	CTTAGTGT	ACACTAAG	
	1-10-074	CGAATTGC	TCCGACAC	GTGTCCGA	
	1-10-075	GTCCTAAG	ATATTACC	GGTAATAT	
	1-10-076	CTTAGGAC	GCGCCTGT	ACAGGCGC	
	IDX1-10	1-10-077	TCCACGTT	ACTCTATG	CATAGAGT
		1-10-078	CAACACAG	GTCTCGCA	TGCGAGAC
		1-10-079	GCCTTAAC	AAGACGTC	GACGTCTT
		1-10-080	GTAAGGTG	GTCGTAAG	CTTACGAC
UDI Set 1-11	1-11-081	AGCTACCA	ACCGGACA	TGTCCGGT	
	1-11-082	CTTCACTG	GTTAAGGT	ACCTTAAC	
	1-11-083	CCGCTTAA	AACCGATG	CATCGGTT	
	1-11-084	GATAGGCA	GTGTATAA	TTATACAC	
	IDX1-11	1-11-085	TACTCCAG	CCAAGTCC	GGACTTGG
		1-11-086	GGAAGAGA	TTGGAAGT	ACTTCCAA
		1-11-087	GCGTTAGA	CATGGTAT	ATACCATG
		1-11-088	ATCTGACC	TGACAAGC	GCTTGTC A



UDI Set 1-12	1-12-089	AACCAGAG	CTAGCTTG	CAAGCTAG
	1-12-090	GTACCACA	TCGATCAC	GTGATCGA
	1-12-091	GGTATAGG	CCTGAACT	AGTTCAGG
	1-12-092	CGAGAGAA	GGCCTTGA	TCAAGGCC
	1-12-093	CAGCATAC	AGTAGAGA	TCTCTACT
IDX1-12	1-12-094	CTCGACTT	GACGAGAG	CTCTCGTC
	1-12-095	CTTCGGTT	AGACTTGG	CCAAGTCT
	1-12-096	CCACAACA	GAGTCCAA	TTGGACTC

## Additional Information

Please refer to kit specific protocols (instructions for use; IFU) when using XCeloSeq UDI Sets 1-01 to 1-12 for Illumina. Ensure that these Sets are only used with the XCeloSeq Library Preparation Kits detailed in this document.

For support with greater levels of multiplexing or any other enquiries, please contact us - [sales@genefirst.com](mailto:sales@genefirst.com)

## Limitations of Use

### For Research Use Only (RUO).

This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals. SDS sheets relevant to this product are available upon request.

## Customer Contact Information

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