

NGS product catalog

IDT aims to deliver innovative, high-performing NGS products to enable your discovery power. Investigate how the varied IDT solutions can propel your NGS research forward.



Library preparation



Hybridization capture



Amplicon sequencing



Library normalization

Why xGen Next Generation Sequencing?

xGen NGS represents our commitment to accelerating your next breakthrough scientific discovery. Uncover a comprehensive, flexible range of solutions designed to help you sequence samples and generate research data you never thought you could.



xGen Library Preparation

xGen Library Prep Kit selection	Catalog #	Reactions
EZ DNA Library Prep Kit Enzymatic fragmentation of dsDNA. Indexing by PCR workflow.	10009863	16
	10009821	96
EZ DNA Library Prep Kit UNI Enzymatic fragmentation. Indexing by ligation workflow.	10009864	16
	10009822	96
MC DNA Library Prep Kit Mechanical fragmentation. Indexing by PCR workflow.	10009861	16
	10009819	96
MC DNA Library Prep Kit UNI Mechanical fragmentation. Indexing by ligation workflow.	10009862	16
	10009820	96
cfDNA & FFPE DNA Library Prep Kit Use degraded and low-input research samples for variant detection.	10006202	16
	10006203	96
ssDNA & Low-Input DNA Library Prep Kit Enables preparation of libraries from degraded and damaged ssDNA & dsDNA samples.	10009859	16
	10009817	96
Methyl-Seq Library Prep Kit Utilizes Adaptase™ technology to construct libraries post-bisulfite conversion, to empower epigenetic research.	10009860	16
	10009824	96
RNA Library Prep Kit A fast, low-cost transcriptome sequencing workflow for Illumina platforms.	10009866	16
	10009814	96
Broad-Range RNA Library Prep Kit Compatible with a range of input types, quantities, and indexing options for your research.	10009865	16
	10009813	96

 **xGen Adapters & Indexing Primers**

Single index



Unique dual index



Dual index UMI









-  **Flow cell binding sequence:** Platform-specific sequences for library binding to instrument
-  **Sequencing primer sites:** Binding sites for general sequencing primers
-   **Sample indexes:** Short sequences specific to a given sample library
-  **Molecular index/barcode:** Short sequence used to uniquely tag each molecule in a given sample library
-  **Insert:** Target DNA or RNA fragment from a given sample library

Figure 1. Adapter designs. A variety of NGS adapter designs are available from IDT. When selecting or designing adapters, consideration must be given to the intended application, multiplexing needs, specification requirements, and analysis methods.

xGen Custom Adapters & Primers	Catalog #
TruSeq® – Compatible Full-length Adapters Available in single index, combinatorial dual index, UDI, & UDI-UMI configurations.	Request online
TruSeq® – Compatible Stubby Adapter and Indexing Primers Available in single index, combinatorial dual index, & UDI configurations.	Request online
TruSeq® – Compatible Indexing Primers Available in single index, combinatorial dual index, & UDI configurations.	Request online
Nextera® – Compatible Indexing Primers Available in single index, combinatorial dual index, & UDI configurations.	Request online

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xGen Indexing Primers	Catalog #	# of unique primer pairs	Description
Stubby Adapters	10005974	—	—
	10005924	—	—
Stubby Adapters and UDI Primers	10005976	16	8 nt
	10005921	96	8 nt
UDI Primer Pairs	10005975	16	8 nt
	10005922	96	8 nt Plate 1
	10009816	96	8 nt Plate 2
	10008052	384	10 nt Plates 1-4
	10008053	768	10 nt Plates 1-8
	10008054	1536	10 nt Plates 1-16
	10008055	384	10 nt Plates 1-4, 2 nmol*
	10008056	768	10 nt Plates 1-8, 2 nmol*
CDI Primers	10008057	1536	10 nt Plates 1-16, 2 nmol*
	10009815	96	8 nt

* Bulk number of reactions will vary depending on quantity of primers added.

xGen Full-Length Adapters	Catalog #	Reactions
UDI-UMI Adapters	10006914	16
	10005903	96

Indexing strategy	Full-length adapters	Indexing primer options				
	UDI + UMI	UDI	UDI + stubby	CDI	Normalase-UDI	Normalase-CDI
xGen RNA Library Prep		•		•	•	•
xGen Broad-range RNA Library Prep		•		•	•	•
xGen DNA Library Prep EZ or MC		•		•	•	•
xGen DNA Library Prep EZ or MC UNI	•		•			
xGen ssDNA & Low-input DNA library Prep		•		•	•	•
xGen Methyl-Seq Library Prep		•		•	•	•
xGen cfDNA & FFPE Library Prep		•				

xGen Hybridization Capture Panels

xGen Custom Hyb Panels	Catalog #	Reactions
Custom Hyb Panel Provides the best trade-off between speed and value. NGS functional testing documentation included with a 3-week TAT*.	Request online	16, 96, & custom
Custom Hyb Panel—Accel Has fastest turnaround time for customers (<5 days)*.	Request online	16, 96, & custom
Custom Hyb Panel—Production Provides additional quality and NGS functional testing documentation.	Request online	16, 96, & custom

* Turnaround time reflects up to 50,000 probes.

xGen Predesigned Hyb Panels	Catalog #	Reactions
Exome Hyb Panel v2 Exome capture panel manufactured using GMP standards targeting 19,433 genes.	10005151	4
	10005152	16
	10005153	96
AML Cancer Hyb Panel Targets >260 genes associated with AML for efficient identification of disease-causing mutations.	1016303	16
	1016302	96
Inherited Disease Hyb Panel Targets genes and single nucleotide polymorphisms (SNPs) associated with inherited diseases.	1016352	16
	1016351	96
Pan-Cancer Hyb Panel Captures 127 mutated genes implicated across 12 tumor types for deeper sequencing.	1056205	16
	1056204	96
CNV Backbone Hyb Panel Spike-in panel that can be used to identify copy number variations in human NGS research data.	1080563	16
	1080564	96
Human ID Hyb Panel Spike-in panel that uses targeted enrichment of a definitive set of SNPs to identify a unique individual from a population of over 5 million biological samples.	1075702	16
	1075703	96
Human mtDNA Hyb Panel Spike-in panel for cost-effective identification of sequence variants in mitochondrial DNA.	1075705	16
	1075706	96
SARS-CoV-2 Hyb Panel Spans the complete viral genome and is not susceptible to known and novel mutations arising from diverse strains.	10006764	96
	10006988	96*

* Includes SARS-CoV-2 Hyb Panel, hybridization wash kit, blockers, and library amplification primers.

 **xGen Hybridization Capture Core Reagents**

xGen Hyb and Wash Kits	Catalog #	Reactions
Hybridization and Wash Kits Contains buffers, cot DNA & streptavidin beads required for capture	1080577	16
	1080584	96

xGen Blocking Oligos	Catalog #	Reactions	
Standard Blocking Oligos	TS Mix (for TruSeq®-style library)	1075474	16
		1075475	96
		1075476	4×96
	10 bp TS Mix (for TruSeq®-style library)	1081100	16
		1081101	96
		1081102	4×96
	NXT Mix (for Nextera®-style library)	1079584	16
		1079585	96
		1079586	4×96
	Ion Torrent (IT-P1 & A)	Custom	10
		Custom	25

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xGen Cot DNA	Catalog #	Size
Human Cot DNA Placental DNA enriched for repetitive DNA sequences. Used to block non-specific binding in DNA hybridization reactions.	1080768	150 µL
	1080769	650 µL

xGen Primer Mix	Catalog #	Reactions
Library Amplification Primer Mix Contains primers complement to P5 & P7 that are required for post-capture PCR and amplify any library containing P5/P7.	1077675	16
	1077676	96
	1077677	192

 **xGen Amplicon Panels**

xGen Predesigned Amplicon Panels	Catalog #	Reactions
SARS-CoV-2 Amplicon Panel	10009832	96
ACE2 Gene Amplicon Panel	10009830	96
SARS-CoV-2 S Gene Amplicon Panel	10009831	96
SARS-CoV-2 ARTIC Amplicon Panel v4.1	10011442	500
SARS-CoV-2 Midnight Amplicon Panel	10007184	500
56G Oncology & Inherited Disease Amplicon Panel v2	10009838	96
57G Pan-Cancer Amplicon Panel	10009837	96
BRCA1/2 Amplicon Panel	10009840	96
BRCA1/2 PALB2 Amplicon Panel	10009841	96
CFTR Amplicon Panel	10009844	96
Colorectal Amplicon Panel	10009834	96
EGFR Pathway Amplicon Panel	10009839	96
Lung Amplicon Panel	10009833	96
Lynch Syndrome Amplicon Panel	10009835	96
Myeloid Amplicon Panel	10009836	96
TP53 Amplicon Panel	10009842	96
16S Amplicon Panel v2	10009828	96
ITS1 Amplicon Panel	10009829	96
Human Sample ID Amplicon Panel	10009843	96
HS EGFR Pathway Amplicon Panel	10009858	24

xGen Amplicon Core Kit	Catalog #	Reactions
Amplicon Core Targeted Amplicon Library Prep Kit for contiguous coverage (overlapping amplicons), comprises multiplexed PCR, indexing PCR, and Normalase™ reagents (target-specific panel and indexing primers sold separately).	10009827	96

xGen Normalase™ CDI Primers	Catalog #	Reactions
Amplicon CDI Primers CDI primers designed for Normalase™ workflow when using the xGen Amplicon Core Kit.	10009845	96

xGen Normalase™ UDI Primers	Catalog #	Reactions
Amplicon UDI Primers Premixed, unique index primers designed for the Normalase™ workflow when using the xGen Amplicon Core Kit.	10009847	Plate 1/96 rxn
	10009848	Plate 2/96 rxn
	10009849	Plate 3/96 rxn
	10009850	Plate 4/96 rxn
	10009846	Set 1/4×96 rxn
	10009851	Set 2/4×96 rxn
	10009852	Set 3/4×96 rxn
	10009853	Set 4/4×96 rxn

xGen Buffer	Catalog #	Reactions
PEG NaCl Buffer Buffer used during the “with bead” purification steps when DNA is eluted into the next reaction mixture and the beads are reused. Supplied with the xGen Amplicon Core Kit, also sold separately when additional buffer is needed.	10009854	96

 **xGen Normalase™ Module**

xGen Normalase™ Module	Catalog #	Reactions
Normalase Module Core kit for performing Normalase, includes Normalase I & II reagents and terminal primers (indexing primers sold separately).	10009793	96

xGen Normalase™ CDI Primers	Catalog #	Reactions
CDI Primers CDI primers designed for the Normalase workflow.	10009794	96

xGen Normalase™ UDI Primers	Catalog #	Reactions
UDI Primers Premixed, unique index primers designed for the Normalase workflow.	10009796	Plate 1/96 rxn
	10009797	Plate 2/96 rxn
	10009798	Plate 3/96 rxn
	10009799	Plate 4/96 rxn
	10009795	Set 1/4×96 rxn
	10009800	Set 2/4×96 rxn
	10009811	Set 3/4×96 rxn
	10009812	Set 4/4×96 rxn

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