

## xGen Blocking Oligos

### Improve on-target performance during targeted sequencing

xGen Blocking Oligos bind to library adapter sequences to reduce off-target capture during library enrichment, increasing specificity and cost-efficiency. Incorporating proprietary oligonucleotide modifications, xGen Blocking Oligos deliver high on-target sequencing results. Choose from inventoried or custom blocking oligos to suit your specific requirements.

xGen Blocking Oligos are compatible with all xGen Lockdown Panels and Probes. Each blocking oligo is individually synthesized and quality controlled by mass spectrometry.

### xGen Universal Blockers

These proprietary mixes have been designed to block Illumina platform adapters using a single, optimized blocker mix. xGen Universal Blockers are available in 16-, 96-, and 4 x 96-reaction formats for convenient experimental design and use with any xGen Lockdown Panel or xGen Lockdown Probe set. The preformulated xGen Universal Blockers also eliminate resuspension errors and reduce steps in the target capture workflow (Figure 1).

**xGen Universal Blockers—TS Mix** is designed for use with ligation-based library preparation techniques, such as TruSeq® library kits (Illumina) with 6- and 8-base, single- and dual-indexing schemes.

**xGen Universal Blockers—10 bp TS Mix** is compatible with ligation-based library prep kits that use 10 bp index barcodes.

**xGen Universal Blockers—NXT Mix** is designed for use with Nextera® library kits (Illumina) with single- and dual-indexing schemes.

### Custom xGen Universal Blocking Oligos

Custom xGen Universal Blocking Oligos are available for other platforms, including Ion Torrent, and for diagnostics and other specialized applications. For design and ordering support, email [applicationsupport@idtdna.com](mailto:applicationsupport@idtdna.com).

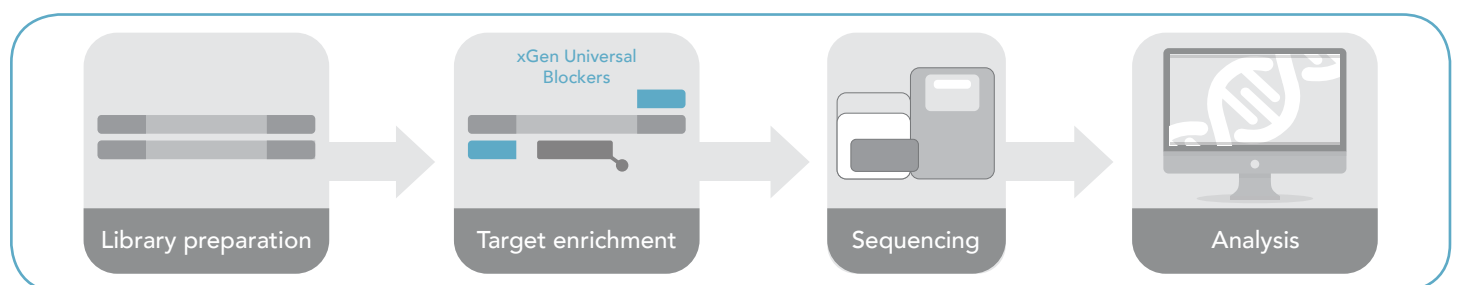
## benefits

**Maximize cost efficiency** by improving on-target performance in singleplex and multiplex capture.

**Effectively block a variety of index adapter designs** with proprietary sequence modifications.

**Eliminate complicated blocker selection** by using worry-free formulations.

Discover more at  
[www.idtdna.com/xGen](http://www.idtdna.com/xGen)



**Figure 1. xGen target capture workflow.** xGen Blocking Oligos bind to adapter sequences during target enrichment using xGen Lockdown Probes.

## Pair adapter with the right blocker

### Adapter type

### Recommended IDT blocker

Single index, TruSeq or similar adapter type, 6- or 8-base index (i6 and i8 LT)

Dual index (HT), TruSeq or similar adapter type, 8-base index (combinatorial or unique dual)

TS Mix

IDT Dual Index UMI adapters

Dual index, TruSeq or similar adapter type, 10 bp index

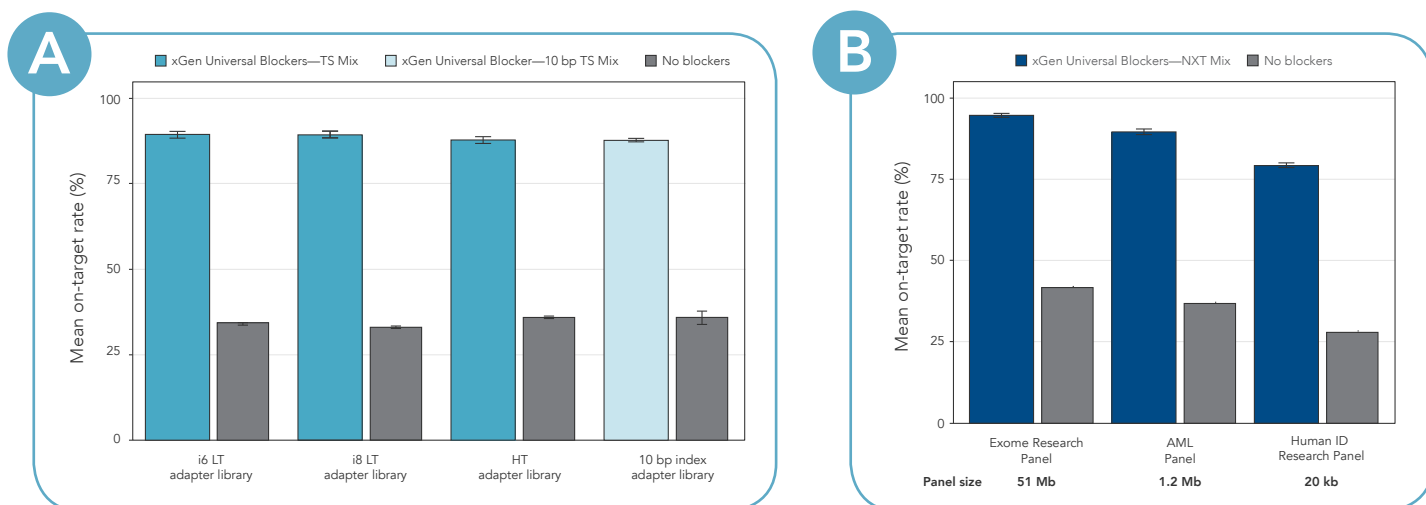
10 bp TS Mix

Dual Index, Nextera libraries, 8-base index

NXT Mix

## High on-target performance

xGen Universal Blockers increase on-target performance of xGen Lockdown Probes across adapter types and large or small capture panels (Figure 2).



**Figure 2. Improved on-target performance delivered by xGen Universal Blockers.** (A) DNA libraries were prepared from cell line NA12878 (Coriell) using a ligation-based library prep kit and TruSeq adapters (Illumina), and were enriched using the xGen AML Cancer Panel with the appropriate blocking oligo (TS Mix or 10 bp TS Mix). (B) Cell line NA12878 (Coriell) was used for library preparation using the Nextera DNA Library Preparation Kit for Enrichment (Illumina). Amplified libraries were enriched using the xGen Exome Panel, xGen AML Cancer Panel, and the xGen Human ID Research Panel, with xGen Universal Blockers—NXT Mix. Sequencing was performed on a NextSeq® system (Illumina) to generate 2 x 75 bp paired-end reads.

## Ordering information

Product	Unit size	Catalog #
xGen Universal Blockers—TS Mix	16 reactions	1075474
	96 reactions	1075475
	4 x 96 reactions	1075476
	16 reactions	1081100
xGen Universal Blockers—10 bp TS Mix	96 reactions	1081101
	4 x 96 reactions	1081102
	16 reactions	1079584
	96 reactions	1079585
xGen Universal Blockers—NXT Mix	4 x 96 reactions	1079586

For more information and to order, visit [www.idtdna.com/blockers](http://www.idtdna.com/blockers).

**For Research Use Only. Not for use in diagnostic procedures.**

