

xGEN BLOCKING OLIGOS

Improve on-target performance during targeted sequencing.



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

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 Blocking Oligos can also be synthesized under a quality management system certified to ISO 13485:2016 standards for Medical Devices.

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 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.

xGen Universal Blockers—NXT Mix is designed for use with Nextera® library kits (Illumina) with 8- and 10-base dual-indexing schemes.

CUSTOM xGEN UNIVERSAL BLOCKING OLIGOS

Custom xGen Universal Blocking Oligos are available for other platforms, including Ion Torrent, and for other specialized applications. For design and ordering support, email applicationsupport@idtdna.com.



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

> WWW.IDTDNA.COM

PAIR ADAPTER WITH THE RIGHT BLOCKER

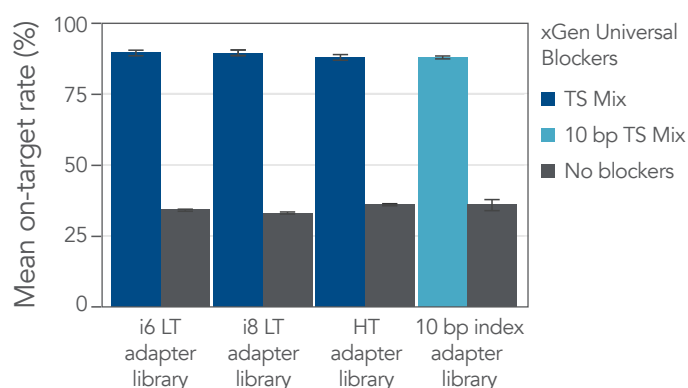
| Adapter type | Recommended IDT blocker |
|---|-------------------------|
| Single index, TruSeq or similar adapter type, 6- or 8-base index (i5 and i7 LT) | |
| Dual index (HT), TruSeq or similar adapter type, 8-base index (combinatorial or unique dual) (e.g., TruSeq-compatible adapters with 8-base index) | TS Mix |
| Dual index, TruSeq or similar adapter type, 10 bp index (e.g., TruSeq-compatible adapters with 10-base index) | 10 bp TS Mix |
| Dual Index, Nextera libraries, 8- or 10-base index (e.g., Nextera-compatible adapters with 8- or 10-base index) | NXT Mix |

For more information about adapters, visit www.idtdna.com/NGS-adapters.

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).

A. On-target rate across adapter types



B. On-target rate across panels

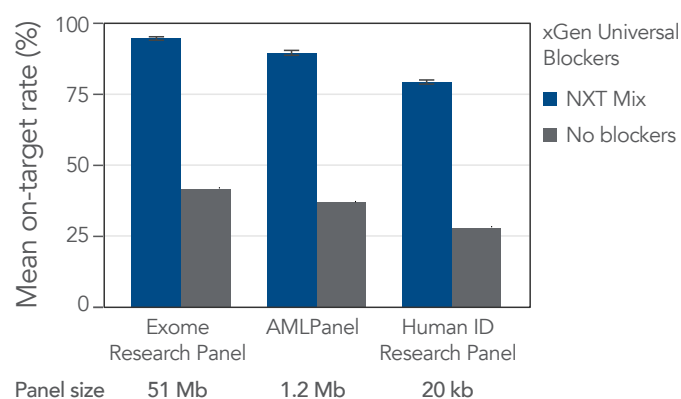


Figure 2. Improved on-target performance delivered by xGen Universal Blockers. (A) DNA libraries were prepared from cell line NA12878 (Coriell) using a ligation-based library prep kit and TruSeq adapters (Illumina), and were enriched using the xGen AML Cancer Panel with the appropriate blocking oligo (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 | Size | Catalog # |
|--------------------------------------|------------|-----------|
| xGen Universal Blockers—TS Mix | 16 rxn | 1075474 |
| | 96 rxn | 1075475 |
| | 4 x 96 rxn | 1075476 |
| xGen Universal Blockers—10 bp TS Mix | 16 rxn | 1081100 |
| | 96 rxn | 1081101 |
| | 4 x 96 rxn | 1081102 |
| xGen Universal Blockers—NXT Mix | 16 rxn | 1079584 |
| | 96 rxn | 1079585 |
| | 4 x 96 rxn | 1079586 |

- > FOR MORE INFORMATION AND TO ORDER, VISIT WWW.IDTDNA.COM/BLOCKERS.
- > FOR INFORMATION ABOUT GMP BLOCKING OLIGOS, CONTACT B2B@IDTDNA.COM.

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