

ThruPLEX[®] Plasma-seq Kit

Illumina[®] NGS Library Preparation Optimized for Cell-Free DNA



ThruPLEX[®] Plasma-seq is powered by ThruPLEX chemistry to generate high performance NGS libraries from cell-free DNA isolated from plasma. The chemistry is optimized specifically for cell-free DNA to maximize the library complexity and to preserve the GC representation of the input DNA. ThruPLEX Plasma-seq libraries can be used directly for whole genome sequencing applications or enriched using a custom panel or the leading target enrichment platforms, including Agilent SureSelect[®] and Roche NimbleGen SeqCap[®] EZ.

- Designed for cell-free DNA - Newly formulated repair and ligation reagents
- High Performance NGS Libraries - High library diversity at low input amount with broad and reproducible GC coverage
- Adaptable Sample Input Amount - <1 to 30 ng of cell-free DNA
- Fast and Simple Workflow - 3 steps in a single tube or well in 2 hours with no purification or sample transfer steps

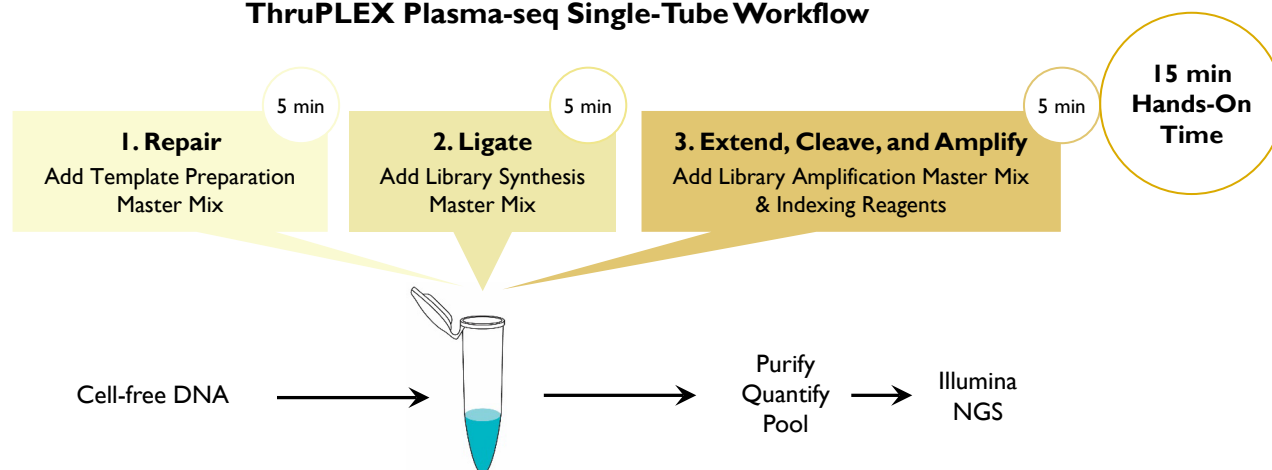


Most Efficient Workflow

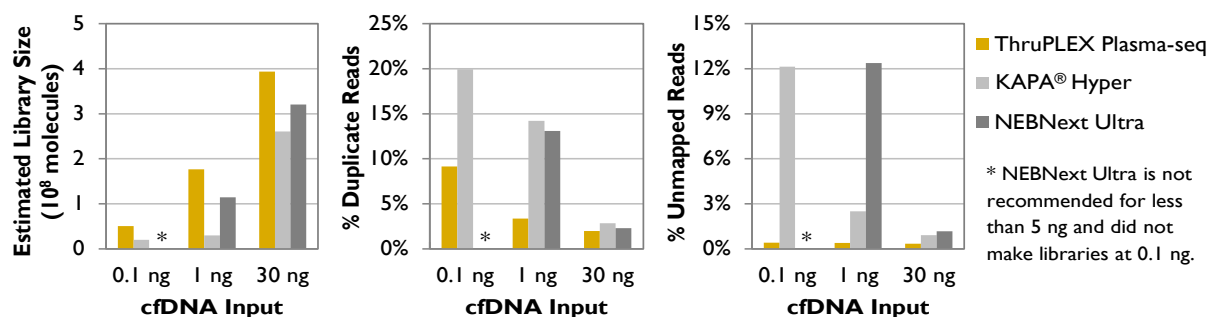
YOUR THRUPLEX PLASMA-SEQ KIT IS THE EASIEST TO FOLLOW AND HAS THE MOST STREAMLINED PROTOCOL (IMPORTANTLY WITH THE FEWEST CLEAN-UP STEPS). WE SUCCESSFULLY MADE LIBRARIES FROM 1 NG INPUT IN THIS TRIAL.

—DR. CHARLIE MASSIE, UNIVERSITY OF CAMBRIDGE

ThruPLEX Plasma-seq Single-Tube Workflow

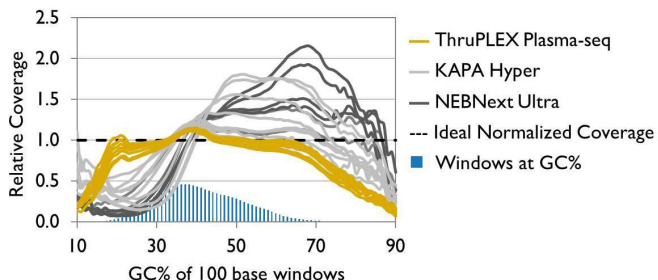


Highest Diversity and Fewest Unmapped Reads from Cell-Free DNA



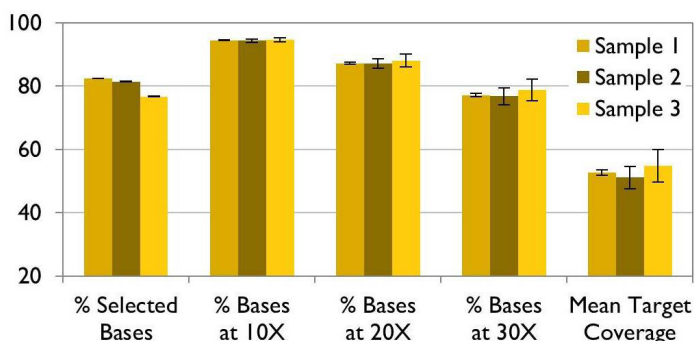
ThruPLEX Plasma-seq generated quality libraries with high diversity and a low number of duplicates and unmapped reads. Cell-free DNA was extracted from 3 plasma samples using the QIAamp[®] Circulating Nucleic Acid Kit, and libraries were prepared at the amounts indicated as measured by Qubit[®]. The amount of mononucleosomal DNA in each sample, as measured by the Bioanalyzer[®], corresponded to 0.09 ng, 0.62 ng, and 15.44 ng. Pooled libraries were sequenced on an Illumina NextSeq[®] 500 as a paired-end run with 17M to 25M reads per library. Duplication rates were calculated after down-sampling the data to 17 M reads per library.

Reproducible, Unbiased GC Coverage



ThruPLEX Plasma-seq provided the most reproducible and unbiased GC coverage across the human genome. ThruPLEX libraries showed minimal variability across 9 individual plasma samples tested. Libraries were prepared from cell-free DNA isolated from 1 mL of plasma samples and sequenced on an Illumina NextSeq 500. Four separate plasma samples were used to construct the NEBNext[®] Ultra™ libraries.

Outstanding Target Enrichment Performance



ThruPLEX Plasma-seq libraries were captured at high efficiency and generated data with deep coverage of the kinome for mutation detection. Libraries were prepared from 3 plasma samples at input amounts of 5 ng, 6.5 ng, and 10 ng in triplicate, and targeted sequencing was carried out on an Illumina MiSeq[®] using samples enriched with the ClearSeq[®] Human DNA Kinome Panel for SureSelectXT2. On average, 5 M reads were generated per library. Selected bases were successfully captured bases that were in or within 250 bp of the baits.

Ordering Information

ThruPLEX[®] Plasma-seq Kit contains everything required to create indexed Illumina NGS libraries including optimized and validated adapters and indexing reagents.

CAT. NO.	Product	Kit Size	Indexes Included
R400490	ThruPLEX Plasma-seq 12S Kit	12 reactions	12 single indexes in tubes
R400491	ThruPLEX Plasma-seq 48S Kit	48 reactions	48 single indexes in a plate
R400492	ThruPLEX Plasma-seq 96D Kit	96 reactions	96 dual indexes in a plate

Order on-line at www.rubicongenomics.com. For custom orders contact busdev@rubicongenomics.com.

ThruPLEX[®] Plasma-seq Kit is intended for **Research Use Only**. It may not be used for any other purposes including, but not limited to, use in diagnostics, forensics, therapeutics, or in humans. ThruPLEX Plasma-seq may not be transferred to third parties, resold, modified for resale or used to manufacture commercial products without prior written approval of Rubicon Genomics, Inc. ThruPLEX Plasma-seq Kit is protected by U.S. Patents 7,803,550; 8,071,312; 8,399,199; 8,728,737 and corresponding foreign patents. Additional patents are pending.

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