Twist UMI Adapter System

Enhanced sensitivity for rare variant detection

KEY BENEFITS

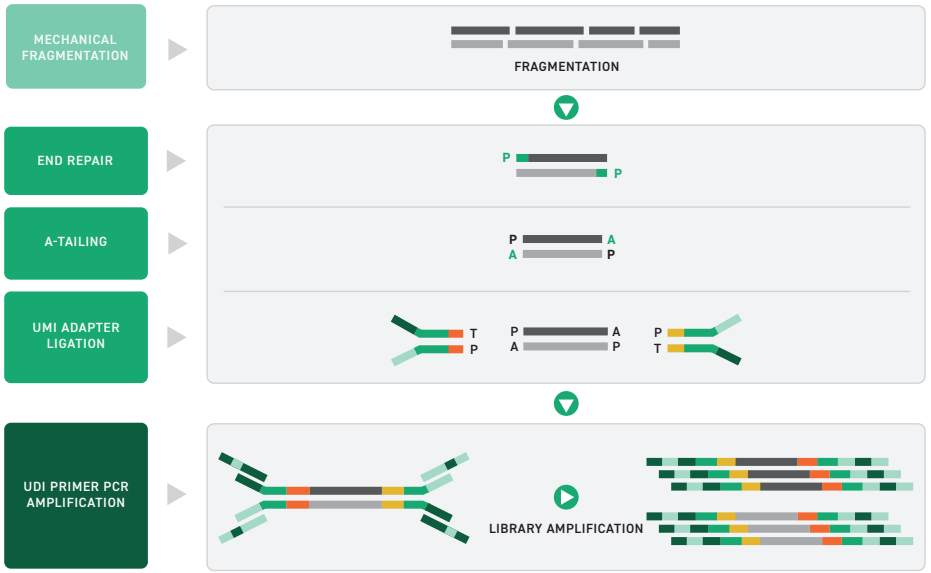
- Enables confident detection of low frequency variants in cancer research
- Matched UMI adapters improve sensitivity by reducing false positives
- Fully compatible with Twist's target enrichment solutions
- Available in 16 or 96 sample configurations

Low-input sample sources, such as cfDNA, are increasingly common in the research and development of potential cancer diagnostic tools. Sequencing analysis of these sample types requires robust methods to confidently detect low frequency alleles. In these cases, unique molecular identifiers (UMIs) may be added to the standard NGS workflow. UMIs offer increased sensitivity in quantitative variant identification where the data may be impacted by confounding PCR duplicates.

The Twist UMI adapter system fits seamlessly with Twist's Mechanical Fragmentation Library prep kit to produce sequencing-ready libraries compatible with Illumina systems. The 5 basepair matched UMI adapters are first ligated to the input molecules, and subsequently PCR amplified with Twist's Unique Dual-Indexed primers. The resulting indexed libraries enable post-sequencing consensus building, which offers better detection sensitivity compared to standard methods. Twist's UMI adapters can be easily swapped for Twist's universal adapters, without requiring significant workflow modifications.

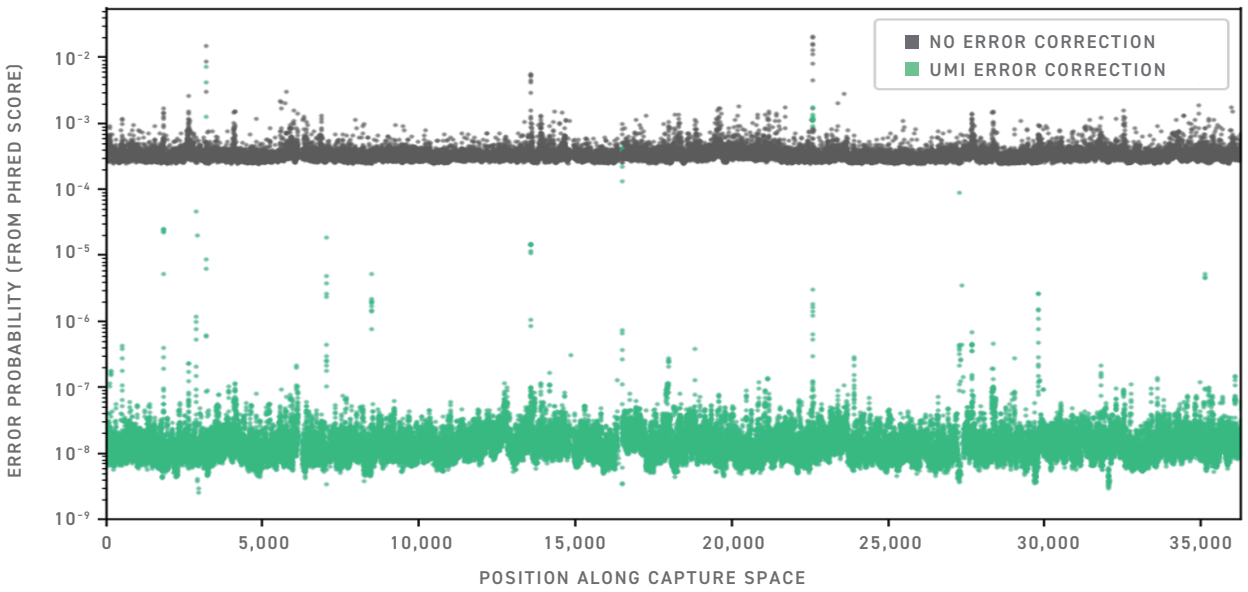
Engineered for optimal performance with heterogenous sample types, the system consists of:

- **Twist Unique Molecular Identifier (UMI) Adapters:** Matched adapters compatible with all 'T-A' overhang workflows.
- **Twist 10 bp Unique Dual-Indexed (UDI) Primers:** Designed with unique dual indices for each mixed primer pair and provided in a 96-well plate format suitable for automation applications.



Greater sensitivity in variant detection

Twist's UMI adapter system offers a research tool for consensus building that removes errors from PCR duplicates.



Estimated per-base error rate for non-error-corrected reads (gray) and error-corrected reads (green) measured from target enrichment of a synthetic cfDNA standard. After sequencing, reads were downsampled to 20,000x coverage and error correction was performed using duplex collapse, requiring at least one read from each original strand.

Compatible with Twist NGS workflows

Twist's comprehensive NGS toolkit enables you to take your low input sample from DNA to data. Libraries generated with Twist's UMI adapter system can be further prepared for targeted sequencing with Twist's custom or fixed target enrichment panels.

Twist UMI Adapters are a component of the Twist portfolio of research use only (RUO) products for NGS Target Enrichment. RUO products are not intended for use in diagnostic procedures.

LEARN MORE

twistbioscience.com/ngs
sales@twistbioscience.com

ORDERING INFORMATION

105040: Twist UMI Adapter System TruSeq Compatible, 16 Samples
105041: Twist UMI Adapter System TruSeq Compatible, 96 Samples Plate A
105042: Twist UMI Adapter System TruSeq Compatible, 96 Samples Plate B
105043: Twist UMI Adapter System TruSeq Compatible, 96 Samples Plate C
105044: Twist UMI Adapter System TruSeq Compatible, 96 Samples Plate D
105094: Twist UMI Adapters - TruSeq Compatible, 96 Samples

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