

# Automating TruSight™ Oncology 500 High-Throughput with Hamilton

Streamlined, consistent library prep with automated methods from Hamilton

## Scalable comprehensive genomic profiling

TruSight Oncology 500 High-Throughput is built on the foundation of the TruSight Oncology 500 assay, with flexibility for higher sample throughput and batching options. TruSight Oncology 500:

- Targets key DNA and RNA pan-cancer biomarkers across 523 genes
- Measures large genomic signatures such as microsatellite instability (MSI) and tumor mutational burden (TMB)
- Provides a comprehensive workflow that allows users to go from initial sample to results in 4-5 days

## Streamlined library prep

Multiple routine and repetitive pipetting steps performed by lab professionals are highly amenable to automation solutions that:

- Reduce manual touchpoints and hands-on time
- Decrease variation related to user error
- Increase lab productivity and help achieve high-quality sequencing results reproducibly

## Automation partnerships

By partnering with Hamilton, a leading provider of liquid-handling solutions, Illumina provides qualified automated solutions that are proven to perform at a level equal to, or better than, manual methods (Figure 1, Figure 2).

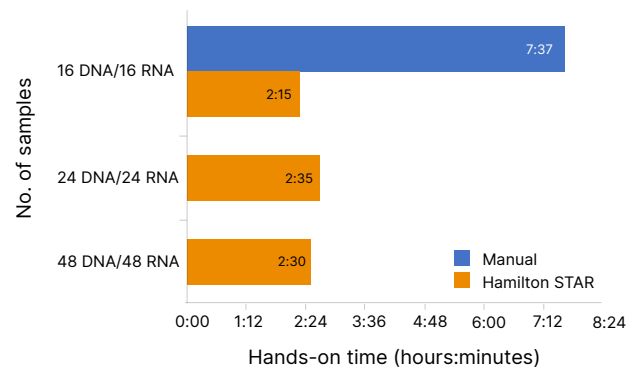


Figure 1: Less hands-on time when automating TruSight Oncology 500 High-Throughput—Illumina Qualified methods on the Hamilton STAR system significantly reduce hands-on time for library prep.

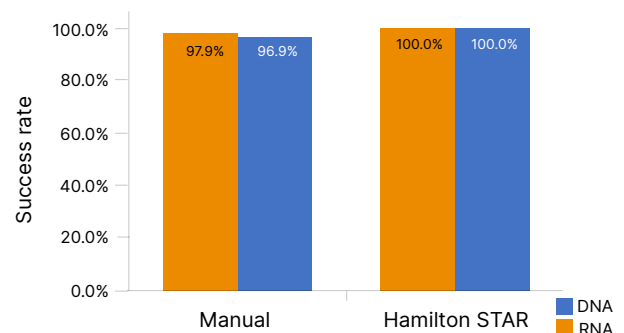


Figure 2: Consistent performance with automating TruSight Oncology 500 High-Throughput—Illumina Qualified methods on the Hamilton SBS STAR MOA system produce consistent performance and low failure rates.

## Scalability with automation

Illumina Qualified methods provide scalability for sample throughput, ranging from 16 to 96 samples in a single run, with the option for parallel processing of DNA and RNA samples (Table 1).

Table 1: Automated method batch sizes

DNA only	DNA/RNA
16	
32	16 DNA + 16 RNA
48	24 DNA + 24 RNA
64	32 DNA + 32 RNA
72	32 Tumor DNA + 32 Normal DNA (64 total DNA) + 32 RNA
96	48 DNA + 48 RNA

## Preconfigured deck layout

The Hamilton SBS STAR MOA features preconfigured workstation layouts designed in collaboration with Illumina to support the TruSight Oncology 500 assay (Figure 3).

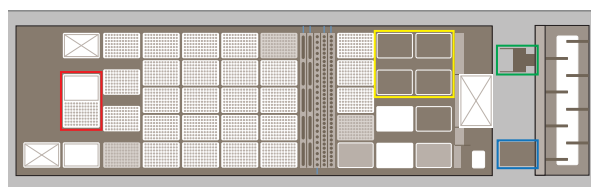


Figure 3: The Hamilton SBS STAR MOA—The Hamilton SBS STAR MOA includes multiple features to support TruSight Oncology High-Throughput, including an on-deck thermal cycler (red box), 96 multiprobe head (yellow box), internal swivel arm plate handler (iSWAP, green box), and a heater-shaker (blue box).

## Summary

Illumina has collaborated with Hamilton to provide scalable, automated solutions for the TruSight Oncology 500 assay that reduce preparation time and provide consistent performance. Illumina continues to work with automation partners to deliver a wide range of system options to meet future throughput and application requirements.

## Learn more

TruSight Oncology 500 High-Throughput

Illumina automation solutions



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M-GL-01729 v1.0

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