

Product Sheet

# Trinity™ Sequencing Kits

## Revolutionizing targeted sequencing workflows

### Highlights

- Save up to 5 hours of hands-on time compared to traditional workflows
- One hour fast hybridization enables a one-day workflow from library prep to sequencing set up
- Quality and cost match traditional, more labor-intensive workflows
- Trinity Freestyle™ broadens compatibility and expands barcode access for third-party libraries

### Introduction

While targeted sequencing applications have benefited from innovations in probe design and manufacturing, the workflow has remained unchanged since 2008. By drastically simplifying target capture, our Trinity sequencing kits reimagine how you perform targeted sequencing, at any scale. This innovative new workflow expands what is possible on a benchtop genomics platform. By eliminating manual target capture steps and automating others on board an AVITI™ or AVITI24™ system,

Trinity saves you up to 5 hours of hands-on time and removes the need for specialized equipment. Ultimately, this accelerates your time to discovery and empowers rapid data-driven decision making.

### Reimagined Workflows

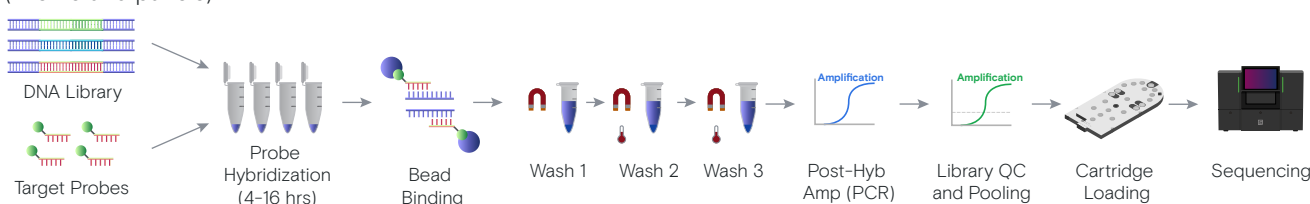
The traditional hybrid selection process for targeted panels, like exomes, involves a time-consuming process with many hands-on steps including multiple temperature-controlled washes, PCR-based amplification, and library quality control. Using the Trinity workflow, you simply hybridize your DNA library to the target probes of interest, wait the prescribed time, then load it directly on your AVITI or AVITI24 system. Leveraging fast hybridization protocols, Trinity enables the fastest hybrid capture workflow on the market today with turnaround times as little as a day.

### Improved Data Quality

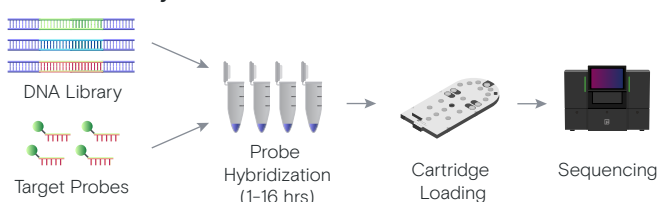
Trinity empowers you to simplify your targeted sequencing workflow without compromising data quality and performance.

In comparison studies, Trinity demonstrates a lower duplication rate resulting in 10% fewer pass filter reads needed to achieve desired mean target coverage.

#### Traditional hybrid selection process (Exome and panels)



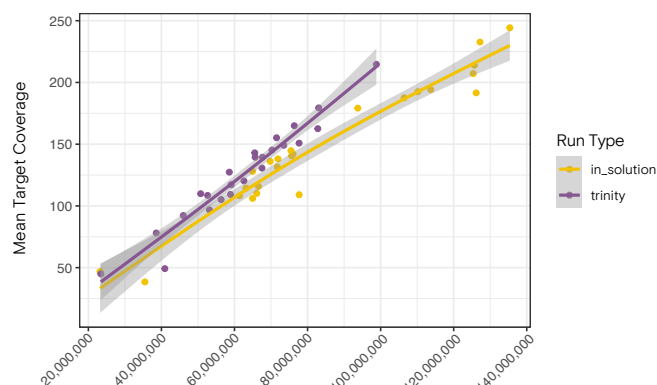
#### Element Trinity workflow



**Figure 1.** Trinity introduces radical time savings and improvements to the traditional target sequencing workflow.

It also delivers improved library diversity, driven by a reduction in duplications. Importantly, this data is consistent between samples with a reliable throughput of filter passing reads.

Trinity sequencing kits are optimized for sequencing 24 samples per flow cell on AVITI, or 36 exomes on the AVITI24 system, achieving  $\geq 50\times$  mean target coverage, and the ability to scale the plexity depending on your coverage needs.



**Figure 2.** A comparison study of 24 matched blood and FFPE exome libraries sequenced with Trinity or in solution workflows.

## Compatible Panels

Element Biosciences is collaborating with ecosystem partners including Twist Biosciences and IDT, to develop validated workflows for a broad range of panel compatibility. With some optimization and guidance, Trinity sequencing is compatible with panels ranging from hundreds to thousands of targets.

For all compatible workflows, library preparation, panels, and hybridization reagents can be purchased from our partners while Trinity sequencing kits and binding reagents are purchased directly from Element Biosciences.

## Expanded Flexibility

Trinity Freestyle™, the most flexible option, delivers the same speed and simplicity you expect from Trinity plus full P5/P7 library compatibility and expanded barcode access through Twist EF2.0 and Twist FlexPrep. Using a 1 hour hybridization step, Trinity Freestyle effortlessly fits into your existing pipelines, minimizes hands-on time, and streamlines the workflow.

## Performance Metrics

|                                                         |                                                 |
|---------------------------------------------------------|-------------------------------------------------|
| Quality                                                 | $\geq 90\%$ Q30                                 |
| On-Target %                                             | $\geq 85\%$                                     |
| Fold 80                                                 | $\leq 1.5$                                      |
| Run Time                                                | 2x75: ~ 24 hours<br>2x150: ~ 38 hours           |
| Mean Target Coverage<br>(24-plex AVITI/36-plex AVITI24) | 2x75: $\geq 30\times$<br>2x150: $\geq 50\times$ |

## Ordering Information

| Trinity Sequencing Kits                |           |
|----------------------------------------|-----------|
| Trinity 2x75 Sequencing Kit            | 860-00019 |
| Trinity 2x150 Sequencing Kit           | 860-00020 |
| Trinity Binding Reagent                | 830-00029 |
| Trinity Fast Hyb Loading Buffer        | 830-00030 |
| Trinity Fast Hyb Binding Reagent       | 830-00034 |
| Trinity PhiX Control                   | 830-00031 |
| Trinity Freestyle Sequencing Kits      |           |
| Trinity Freestyle 2x150 Sequencing Kit | 860-00046 |
| Trinity Freestyle 2x75 Sequencing Kit  | 860-00045 |
| Trinity Freestyle PhiX Control         | 830-00048 |

View all partner product numbers:



To learn more, visit [elementbiosciences.com](https://elementbiosciences.com)

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**Element  
Biosciences**

Telephone: 619.353.0300  
Email: [info@elementbio.com](mailto:info@elementbio.com)