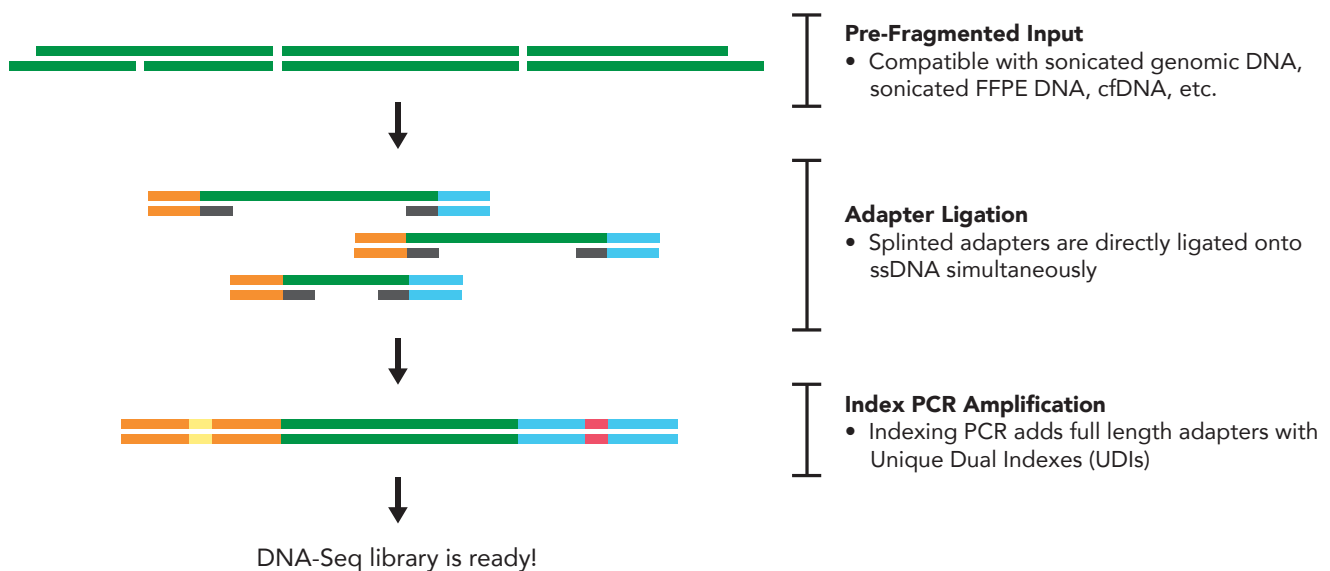


# Maximize Precision and Flexibility in DNA sequencing

## Zymo-Seq™ SPLAT DNA Library Kit

- **Novel Solution for Fragmentomics Analysis:** Powered by Splinted Ligation Adapter Tagging (SPLAT) technology, the kit precisely captures the true fragment ends of cell-free DNA, enabling accurate and high-fidelity analysis of fragmentation patterns.
- **Versatile Sample Handling:** The kit supports a wide range of sample types, including cell-free DNA (cfDNA), FFPE-derived DNA, and genomic DNA, while ensuring true-end ligation for reliable and precise genomic data across diverse research applications.
- **Efficient Workflow:** The two-step workflow allows for the preparation of DNA samples into sequencing-ready libraries in as little as three hours, significantly speeding up the research process.

### Single-Stranded Library Preparation

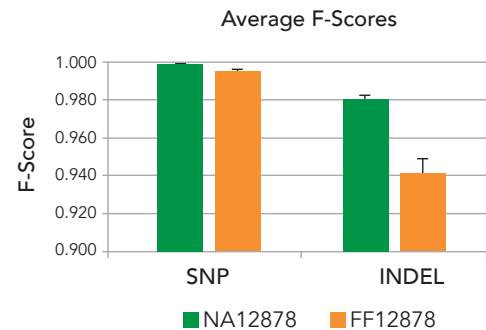


**Overview of the Zymo-Seq™ SPLAT DNA Library Kit Workflow.** The unique single-stranded library preparation begins with denaturation and simultaneous ligation of adapters onto either end of the DNA fragment. The adapterized samples are then indexed and amplified via PCR, allowing for sequence-ready libraries in as little as 3 hours.



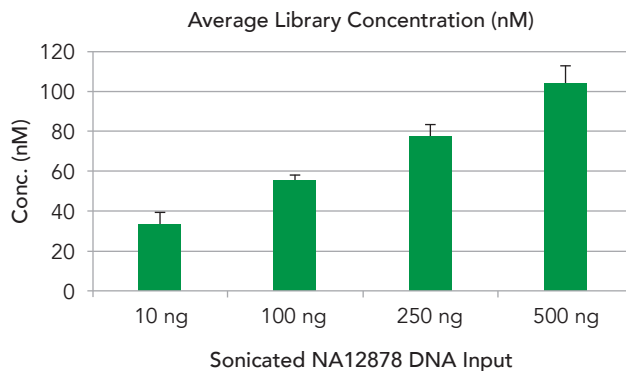
## High quality SNP and INDEL performance PrecisionFDA Truth Challenge

| Sample Source | SNP    |           |              | INDEL  |           |              |
|---------------|--------|-----------|--------------|--------|-----------|--------------|
|               | Recall | Precision | F-Score      | Recall | Precision | F-Score      |
| NA12878       | 99.80% | 99.95%    | <b>0.999</b> | 98.38% | 98.22%    | <b>0.983</b> |
| NA12878       | 99.83% | 99.94%    | <b>0.999</b> | 97.99% | 97.84%    | <b>0.979</b> |
| NA12878       | 99.88% | 99.95%    | <b>0.999</b> | 98.31% | 98.67%    | <b>0.980</b> |
| FF12878       | 99.38% | 99.87%    | <b>0.996</b> | 95.08% | 95.01%    | <b>0.950</b> |
| FF12878       | 99.21% | 99.85%    | <b>0.995</b> | 94.30% | 94.17%    | <b>0.942</b> |
| FF12878       | 99.10% | 99.79%    | <b>0.994</b> | 92.97% | 92.34%    | <b>0.932</b> |



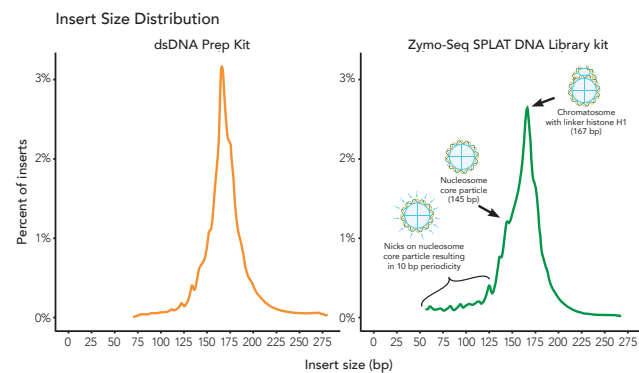
**Zymo-Seq™ SPLAT DNA Library Kit produces reliable SNP and INDEL calling according to the Precision FDA Truth Challenge guidelines.** Zymo-Seq™ SPLAT DNA Libraries were prepared from both genomic (NA12878) and FFPE-derived (FF12878) HG001 genome reference DNA samples. Variant calling was performed using DeepVariant. The accuracy metrics for SNP and INDEL detection were evaluated following the Precision FDA Truth Challenge workflow, comparing the results to the ground truth reference data. Overall performance of the Zymo-Seq™ SPLAT libraries shows superior results across both genomic and FFPE-derived DNA input.

## High Library Yield Across Inputs



**The highly optimized SPLAT library preparation facilitates abundant library across a large range of inputs.** Libraries were prepared from 10 ng, 100 ng, 250 ng, and 500 ng from sonicated NA12878 genomic DNA in triplicate. The 10 ng inputs were amplified with 6 cycles of PCR, the 100 ng inputs were amplified with 5 cycles of PCR, and the 250 ng & 500 ng inputs were amplified with 4 cycles of PCR.

## True-End Analysis in cfDNA



**The Zymo-Seq™ SPLAT DNA Library Kit reveals more DNA fragment information than dsDNA library preparation methods.** Libraries were prepared from 10 ng of cfDNA derived from a plasma donor with colorectal cancer in duplicate using the Zymo-Seq™ SPLAT DNA Library kit and a third-party dsDNA library prep kit. The libraries prepared with the unique single-stranded SPLAT approach captured enriched short cfDNA fragments compared to the dsDNA library prep method. These smaller fragment peaks, exhibiting a 10 bp periodicity, potentially correlate with nicked nucleosomal DNA.

| Product                         | Cat. No. | Size     |
|---------------------------------|----------|----------|
| Zymo-Seq™ SPLAT DNA Library Kit | D5464    | 12 preps |



info@zymoresearch.com



www.zymoresearch.com



Toll Free: (888) 882-9682