

Product note

ONSO LIBRARY PREPARATION

Introduction

The Onso™ library preparation kits are used to create libraries for the PacBio® Onso short-read sequencing system. Leveraging proven next generation sequencing (NGS) workflows, libraries can be created in as little as 3 hours from a wide range of sample types (e.g., fragmented or high-molecular weight DNA) and input amounts (10–1,000 ng).

Library prep workflows

Onso fragmentation DNA library prep kit

This kit enables preparation of libraries from high-molecular weight (HMW) DNA.

- DNA fragmentation, end repair, and A-tailing occur in a single enzymatic reaction
- Indexed adapters are added via ligation to uniquely tag each library
- Optional PCR step to amplify the library prior to downstream workflows or sequencing

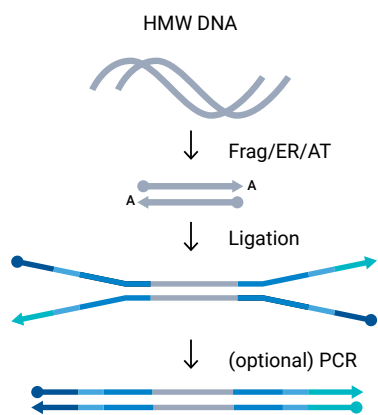


Figure 1. Onso fragmentation library prep workflow

Onso DNA library prep kit

This kit includes a similar workflow as the fragmentation kit but does not contain an enzymatic fragmentation step. This workflow allows for the use of pre-fragmented or degraded DNA as starting input.

- Pre-fragmented DNA is end-repaired and A-tailed in a single enzymatic reaction
- Indexed adapters are added via ligation to uniquely tag each library
- Optional PCR step to amplify the library prior to downstream workflows or sequencing

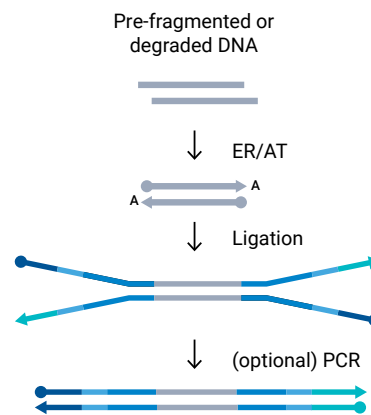


Figure 2. Onso DNA library prep workflow

Onso library prep structure

Onso library prep kits create libraries with the following structure that is compatible with sequencing on the Onso system.



Figure 3. Native Onso library structure

Adapters

Both the Onso fragmentation DNA library prep kit and the Onso DNA library prep kit are compatible with the Onso indexed adapter kit. The indexed adapter kit contains 96 unique, individually plated adapter pairs and follows a combinatorial indexing approach. These adapters contain unique sequences which allow libraries to be sequenced on the Onso system.

Library quantification

The Onso library quantification kit contains standards and primers for accurate quantification (CV <10%) of libraries between 0.1 pM and 100 pM. Onso adapter primers allow specific quantification of A/P1 libraries in library sample solutions.

Sequencing custom libraries

The Onso library conversion kit can be used to create Onso-compatible libraries from existing P5/P7 libraries. A single PCR reaction, with as few as 5 fmols of input can be converted into a ready-to-sequence library in less than one hour.

Additionally, the Onso platform allows the use of custom primers for sequencing modified P5/P7 or A/P1 libraries. This allows researchers flexibility to use any adapter/primer combination successfully on the Onso system.

Ordering information

Product	Part number
Onso fragmentation DNA library prep kit	102-499-100
Onso DNA library prep kit	102-431-400
Onso library amp kit	102-410-800
Onso library quant kit	102-431-800
Onso indexed adapter kit	102-431-700
Onso library conversion kit	102-529-500

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