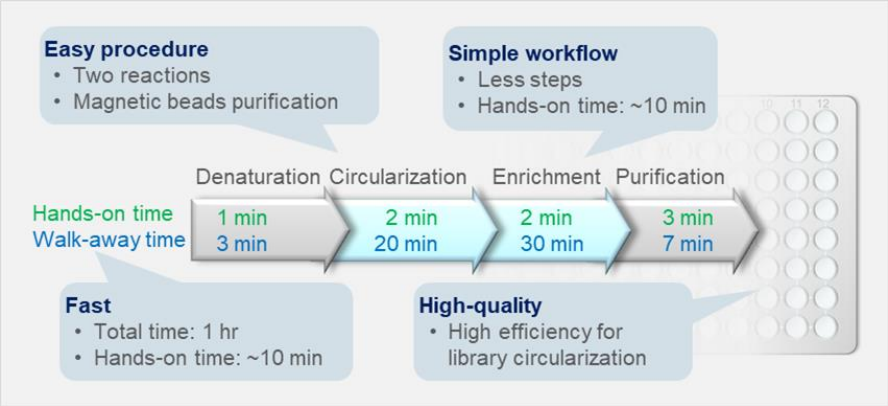
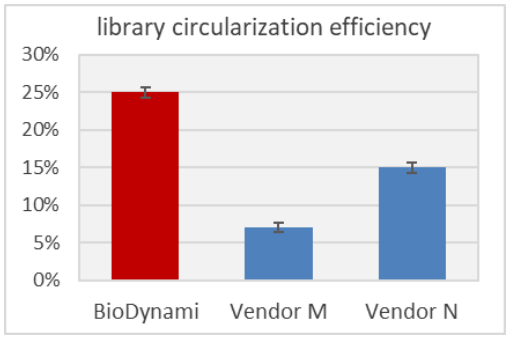
NGS Library Circularization Kit (MGI platform)

Catalog No.	34021S	34021L
Index type	index	index
Reactions	24 reactions	96 reactions

Description

The **NGS Library Circularization Kit (MGI platform)** was developed for preparation of single-stranded circular DNA libraries for next generation sequencing (MGI platform). The kit uses linear dsDNA libraries (MGI platform) as input and enriches the circularized single-stranded DNA libraries. The circularization kit has a higher library circularization efficiency (25%) as compared to other vendors (7-15%).





Features

- Fast
  - Total time: ~1 hr
  - Hands-on time: 10 min
- Easy procedure
- Guaranteed quality: Higher library circularization efficiency
- Input DNA amount: 100-300 ng

Component

Catalog No.	34021S	34021L
LG2 Buffer	192 ul	384 ul
LG2 Enzyme	24 ul	96 ul
LG3 Buffer	456 ul	1824 ul
LG3 Enzyme	24 ul	96 ul

Storage Condition

- Store kit at -20°C, stable up to 12 months.

Reagent & Equipment Needed (not provided in this kit)

- Magnetic particle concentrator
- PCR thermal cycler
- 96-well PCR plate
- 80% ethanol (prepare before use)
- Magnetic Beads (BioDynami Cat.# 40051) or equivalent
- ssDNA Quantification Assay Kit (BioDynami Cat.# 40043) or equivalent

Protocol

Step 1: Heat denaturation

1) Add 21 ul of DNA libraries (100-300 ng) to PCR tube/plate and seal the tube/plate.
2) Heat the libraries at 95°C for 3 min and chill on ice.

Step 2: Circularization

1) Add the following to the denatured libraries. Slow pipetting of the viscous LG2 Buffer is needed for precise aliquot.

LG2 Buffer	8 ul
LG2 Enzyme	1 ul
Total	9 ul

2) Mix by pipetting ten times.
3) Incubate at 37°C for 20 min. Proceed immediately to step 3.

Step 3: Enrichment

1) Add the following to Step 2 reaction mixture.

LG3 Buffer	19 ul
LG3 Enzyme	1 ul
Total	20 ul

2) Mix by pipetting ten times.
3) Incubate at 37°C for 30 min. Proceed immediately to step 4.

Step 4: Purification

1) Resuspend Magnetic Beads and transfer 100 ul to the above reaction mixture, mix by pipetting and incubate for 3 min.
2) Load the plate on a magnet, incubate for 2 min, and discard the supernatant carefully. Remove all residual supernatant without disturbing the beads.
3) Add 180 ul of 80% ethanol, incubate for 30 sec, and discard the supernatant carefully. Remove all residual ethanol without disturbing the beads.
4) Remove the plate from the magnet, resuspend the beads in 22 ul of water.
5) Load the plate on the magnet, incubate for 1 min, and transfer 20 ul supernatant (containing library) to a new tube without disturbing the beads.

Yield of circularized library

The BioDynami **ssDNA Quantification Assay Kit** (Cat.# 40043) is recommended for quantification of circularized library. The yield of circularized library should be around 25% of the input. The table below can be used as a reference.

Insert size (bp)	PCR amplicon size (bp)	Input 1 pmol library (ng)	Yield of circularized library (ng)
200	284	187	46
250	334	220	54
300	384	253	63
350	434	286	72

Quality Control

Kit components passed stringent functional quality test.

Product Use Limitation

This product is developed and sold for research purposes and *in vitro* use only. Please refer to BioDynami.com for Material Safety Data Sheet of the product.

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