2× FragPrime Buffer for RNA library Prep

Product description

2×FragPrime Buffer for RNA library Prep is a specialized reagent for RNA fragmentation and first-strand cDNA synthesis in RNA library preparation. Under high-temperature conditions, RNA is fragmented into short fragments through the function of Mg^{2+} ions. The fragment size can be controlled by adjusting the incubation time and temperature. The RNA used can be total RNA, purified mRNA, or RNA products after rRNA depletion. If the RNA sample is already dissolved in nuclease-free ddH_2O, this product can be selected for RNA fragmentation and subsequent first-strand cDNA synthesis reactions. This product should be used in combination with the RNA Library Prep Kit (Premixed Version) (Cat. No. K1810).

Composition and storage conditions

Components \ Size	960 μL	Storage
2×FragPrime Buffer for RNA library Prep	960 μL	-20°C
Shipping: Bluc Ice	**Shelf life:** 12 months	

Experimental Protocol

Fragmented RNA library construction:

1）Thaw the components and RNA on ice, mix thoroughly, centrifuge, and place on ice for later use. The amount of RNA used is between 0.5 ng-100 ng.

2）Prepare the reaction system according to the following table:

Reagent	Volume
2 × Frag/Prime Buffer for RNA library Prep	8 μL
RNA	8 μL
Total	16 μL

3) Invert, or gently pipette to thoroughly mix the reaction solution, and briefly centrifuge to collect the liquid to the bottom of the tube.

4) Place the sample in a PCR instrument for fragmentation:

Temperature	Time
85°C	6 min
4°C	+∞

***Note:** Please select the appropriate temperature and time according to the size of the product you need.

Platform	Illumina		
The condition of fragmentation	94°C 5 min	85°C 6 min	85°C 6 min
Inserted fragment length (bp)	180 - 280	280 - 380	380 - 480
Library length (bp)	300 - 400	400 - 500	500 - 600

5）Please immediately perform first-strand cDNA synthesis subsequently. For detailed instructions, refer to the first-strand cDNA synthesis and subsequent steps described in the RNA Library Prep Kit (Premixed Version) (Cat. No. K1810) manual.

***Note:** It cannot be stopped during the process from fragmentation to the synthesis of the first strand cDNA, and mRNA is prone to degradation under this system. The components required for the synthesis step of double-stranded cDNA can be taken out in advance from -30 to -15°C and thawed on ice for later use.

Notes

1. Please dissolve the input RNA in nuclease-free ddH_2O, avoiding the presence of Mg^{2+} to prevent interference with fragmentation efficiency.

2. Fragmented RNA has poor stability; it is recommended to proceed immediately to the next library preparation step and avoid prolonged storage.

3. This product is for scientific use only!

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