VAHTS HiFi Universal Amplification Mix for MGI (SI)

NM618

Version 22.1

Product Description

VAHTS HiFi Universal Amplification Mix for MGI (SI) is an upgraded version of VAHTS HiFi Amplification Mix, it is designed for the amplification of next-generation sequencing libraries prepared for MGI sequencing. Through directed optimization, VAHTS HiFi DNA Polymerase has excellent compatibility of the template and amplification sensitivity. Combined with an optimized buffer system, VAHTS HiFi Universal Amplification Mix for MGI (SI) can achieve highly uniform library amplification, thus significantly improving the quality of sequencing. It contains special protective agent, which enables long-term storage and maintain stable in activity after repeated freezing and thawing. All the reagents have undergone rigorous quality control and functional testing to ensure the optimal stability and repeatability of library preparation.

Components

Components	NM618-01 (24 rxns)	NM618-02 (96 rxns)
VAHTS HiFi Universal Amplification Mix	600 μl	4 × 600 μl
PCR Primer Mix for MGI (SI)	120 μl	480 μl

Storage

Store at -30 ~ -15℃ and transport at ≤0℃.

Applications

This product is widely applicable to the amplification of following libraries construction: Conventional DNA libraries(WGS library, Targeted Capture sequencing library, Amplicons sequencing library) and RNA library, etc.

Notes

For research use only. Not for use in diagnostic procedures.

1. It is recommended to use the purified high-quality library template, refer to the respective Instructions for Use.
2. For special libraries, such as low quality and long fragment libraries, the annealing temperature, extension time and number of amplification cycles can be adjusted according to the instructions in the reaction procedure to obtain the best amplification effect.
3. The extension time should not exceed 1 min/kb.

Experiment Process

Reaction System

Thaw the VAHTS HiFi Universal Amplification Mix and mix it thoroughly by turning upside down several times before placing it on ice. Please put it back to -20℃ for storage after use.

Components	Volume
Nuclease-free ddH_2O	up to 50 μl
VAHTS HiFi Universal Amplification Mix	25 μl
PCR Primer Mix for MGI (SI)*	5 μl
Purified Adapter Ligation products	x μl

* For non-MGI sequencing platforms, the corresponding amplification primer should be replaced.

Reaction Program

Components	Temperature	Time	Cycles
Heating lid at 105℃	105℃		
Pre-denaturation	98℃	45 sec	
Denaturation	98℃	15 sec	2 - 20[c]
Annealing	60℃[a]	30 sec	
Extension	72℃	30 sec[b]	
Final Extension	72℃	1 min	
Hold	4℃		

a. The annealing temperature should be adjusted according to the Tm value of the primer, and 60℃ is recommended for common MGI sequencing platform library.
b. For library of special length, the extension time can be prolonged appropriately.
c. Select the appropriate number of cycles according to the following table:

Library	Input amounts of template	recommended number of amplification cycles
DNA	100 pg	17 - 20
	1 ng	14 - 17
	10 ng	10 - 13
	100 ng	6 - 9
	500 ng	3 - 6
	1 μg	2 - 5
RNA	10 ng	17 - 19
	100 ng	14 - 16
	1 μg	11 - 13

▲ For special libraries or libraries constructed with low quality templates, such as FFPE libraries, ChIP DNA libraries, etc., the number of cycles can be increased by 2 - 4 according to the above table.

FAQ & Troubleshooting

◇ **Sequencing Platform Compatibility**

The PCR Primer Mix for MGI (SI) contained in this product is compatibale for MGI sequencing platform, for other sequencing platforms, the corresponding PCR primer should be replaced.

◇ **Primer Concentration**

For amplification primers of non-MGI sequencing platform library, the recommended amplification concentration for each primer is 10 - 20 μM.