VAHTS® HiFi Amplification Mix for MGI

NM616

Version 21.1

Product Description

VAHTS HiFi Amplification Mix for MGI is a high fidelity PCR amplification master mix. The core component of this product is VAHTS HiFi DNA Polymerase. It is a new generation high yield and high fidelity DNA polymerase adapted from Pfu DNA Polymerase. It has greatly increased sensitivity, high amplification efficiency and extensive template compatibility. The amplification error rate of VAHTS HiFi DNA Polymerase is 52-fold lower than that of Taq DNA Polymerase and 6-fold lower than that of Pfu DNA Polymerase, which ensures the fidelity. Matched with optimized buffer system, libraries with low preference, wide template input range, high yield, and high stability can be obtained.

Except for the template, this kit contains all the components required for PCR amplification, thereby simplifying the operation process. This product contains special protective agent, the activity won't be affected after long-term storage or repeated freezing and thawing. The products are blunt-ended and can be directly used for blunt-ended cloning.

Components

Components	NM616-01 (24 rxns)	NM616-02 (96 rxns)
VAHTS HiFi Amplification Mix	600 μl	4 × 600 μl
PCR Primer Mix for MGI	120 μl	480 μl

Storage

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

Applications

It is applicable for PCR amplification of the Adapter Ligation products after purification or size selection, not for single-stranded circular DNA library amplification.

Notes

1. It is recommended to use high-quality templates and operate according to the instruction manual.
2. For special libraries, such as low-quality library and long-fragment library, to obtain the optimal amplification efficiency, annealing temperature, extension time and number of amplification cycles can be adjusted.
3. The extension time should not exceed 1 min/kb.

Experiment Process

Reaction system

The whole operation process should be carried out on ice. After thawing VAHTS HiFi Amplification Mix, please mix by inverting. Store at -20˚C after use.

Purified Adapter Ligation Products	x μl
PCR Primer Mix for MGI*	5 μl
VAHTS HiFi Amplification Mix	25 μl
ddH_2O	To 50 μl

* PCR Primer Mix for MGI is only suitable for MGI platform. For other sequencing platforms, please use corresponding amplification primers.

PCR Program

Step	Temperature	Time	Cycles
Hot lid	105˚C		
Initial-denaturation	95˚C	3 min	1
Denaturation	98˚C	20 sec	
Annealing	60˚C[a]	15 sec	2 - 19[c]
Extension	72˚C	30 sec[b]	
Final extension	72˚C	5 min	1
Hold	4˚C		

a. Set the annealing temperature according to the Tm value of the primers. For conventional MGI libraries, the annealing temperature can be set at 60˚C.
b. For libraries with special fragment length, the extension time can be extended accordingly.
c. Choose the number of amplification cycles according to the following table:

Template type	Initial template amount	Number of cycles to obtain 1 μg products
DNA	100 pg	16 - 19
	1 ng	12 - 15
	10 ng	8 - 12
	100 ng	5 - 8
	500 ng	2 - 5
	1 μg	2 - 5
mRNA	10 ng	16 - 19
	100 ng	12 - 16
	1 μg	11 - 14

▲For special libraries or low-quality templates, such as FFPE sample and ChIP DNA, the number of cycles can be increased by 2 - 4.

FAQ & Troubleshooting

◇ Sequencing platforms compatibility

PCR Primer Mix for MGI is only suitable for MGI platform. For other sequencing platforms, please use corresponding amplification primers.

◇ Primer Concentration

For other sequencing platforms except MGI, it is recommended to adjust the primer concentration between 10 and 20 μM.