MBT069 Hi- Long Amp DNA Polymerase

Components

Reagents provided	Product Code	MBT069			
		100 Units	200 Units	500 Units	1000 Units
Hi-Long Amp DNA Polymerase (5 U/µl)	MBT069	20 µl	40 µl	100 µl	200 µl
10X HiBuffer A (without $MgCl_2$)	DS0276	400 µl	800 µl	2 ml	4 ml
10X HiBuffer S (with 17.5mM $MgCl_2$)	DS0277	400 µl	800 µl	2 ml	4 ml
50mM $MgCl_2$	DS0118	200 µl	400 µl	1 ml	2 ml

Description:

Hi-Long Amp DNA Polymerase is a modified and optimized thermostable enzyme blend containing Taq DNA polymerase, proofreading DNA polymerase and enhancing factors. It exhibits the 3' to 5' proof reading activity, resulting in considerably higher amplification fidelity than possible with unmodified Taq DNA polymerase. Recommended for use in amplification to obtain DNA products up to 20kb.

Features:

- Ultra-pure recombinant protein
- Excellent for multiplex amplification as it exhibit wider tolerance for Mg^{2+} and salt concentration, pH, template contaminations and has increased half-life in comparison to unmodified Taq DNA polymerase
- Improves amplification results with critical templates such as those containing GC-rich regions, palindromes or multiple repeats.
- Increased amplification product yields and purity.

Concentration: 5 U/µl

Unit Definition:

1 U is defined as amount of enzyme that required to catalyze the incorporation of 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74°C.

Reaction Buffer:
10X HiBuffer A (without $MgCl_2$):
500mM KCl, 100mM Tris-HCl (pH 9.1 at 20°C) and 0.1% Triton X-100. The buffer is optimized for use with 0.1-0.2mM of each dNTP.
10X HiBuffer S:
160mM $(NH_4)_2SO_4$, 500mM Tris-HCl (pH 9.2 at 22°C), 17.5mM $MgCl_2$ and 0.1% Triton X-100. The buffer is optimized for use with 0.35mM of each dNTP.

Storage Buffer:
200 mM Tris-HCl (pH 8.0 at 22°C), 100 mM KCl, 0.5% Tween 20, 0.5% Nonidet-P40, 0.1 mM EDTA, 1mM DTT and 50% Glycerol.

ISO 9001-2015 CERTIFIED
WHO GMP CERTIFIED
ISO 13485-2016 CERTIFIED

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Guidelines for PCR optimization using HiMedia's Hi-Long Amp DNA Polymerase:

SUGGESTED INITIAL PCR CONDITIONS FOR VARIOUS PCR PRODUCT SIZES MIX (FINAL CONCENTRATION)

	Product Size	**100bp - 5kb**	**5kb - 8kb**	**8kb - 20kb**
Primers : 0.2 - 1µM Template : Plasmid (0.02 - 2ng) Lambda (0.1 - 150ng) Genomic (0.05 - 5µg)	dNTP Mix	100µM	200µM	360µM
	Buffer (1X)	10X HiBuffer A	10X HiBuffer A	10X HiBuffer S
	Ultrapure DMSO or formamide	-	3%	3%
	DNA Polymerase	Refer to below Table (A)		

Product Size	**100bp - 5kb**	**5kb - 8kb**	**8kb - 20kb**
Denaturation	94°C, 2 min		
Denaturation	94°C, 30 s	94°C, 12 s	94°C, 12 s
Annealing*	50 - 68°C, 30 s		
Extension / 1kb	72°C, 30 s	72°C, 45 s	68°C, 1 min
Cycles	25 - 35		
Final Extension	72°C, 7 min	72°C, 7 min	68°C, 7 min

** Primer dependent*

TABLE (A): RECOMMENDED UNITS FOR MBT069 PER 50µL REACTION VOLUME

Product Size	**Hi-Long Amp DNA Polymerase**
0.1 - 5.0kb	2 units
5.0 - 8.0kb	2 units
8.0 - 20.0kb	2 units
20.0kb	2 units

Quality Control:
Functionally tested in DNA amplification.

Storage conditions: Hi-Long Amp DNA Polymerase should be stored at -20°C. When stored under the recommended conditions, the product is stable for 2 years.

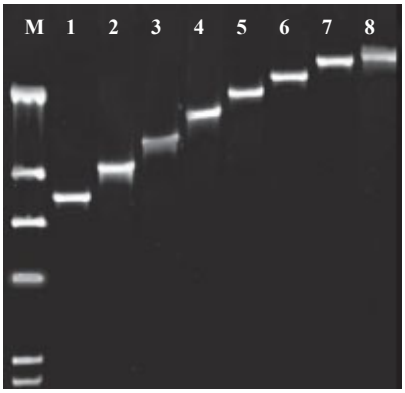

Figure representing amplification of different amplicon sizes using Hi-Long Amp DNA Polymerase with HiBuffer A and HiBuffer S. Lane M : Lambda / Hind III Marker, Lane 1 : 8kb amplicon, Lane 2 : 10kb amplicon, Lane 3 : 12kb amplicon, Lane 4 : 15kb amplicon, Lane 5 : 20kb amplicon, Lane 6 : 30kb amplicon, Lane 7 : 40Kb amplicon, Lane 8 : lambda DNA (48kb)

Technical Assistance

At HiMedia, we pride ourselves on the quality and availability of our technical support. For any kind of technical assistance, mail at mb@himedialabs.com.

-20°C -10°C Storage temperature

Do not use if package is damaged

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