Hi Fidelity polymerase

Cat No	Pack size	conc
LT0500	500 U	5U/ul
LT2500	2500 U	5U/ul

Description:
Hi Fi polymerase are thermostable enzymes formulation specifically developed for synthesizes length up to 30 kb and low error rate PCR product.
Hi Fi polymerase synthesizes higher yields of product from genomic DNA, cDNA, bacterial cultures. It is contain a 2.5 hours half life at 96ºC and easy to amplify PCR product at G-C rich and secondary structure.

Reaction Buffer (10x) with $MgCl_2$: 25 mM

storage conditions: -20˚C

Unit Definition
One unit of Hi Fi DNA Polymerase incorporates 10 nmol of dNTP into acid-insoluble material in 30 min at 74˚C.

Template
Hi Fi Polymerase is suitable for amplifying targets up to 15 kb from the following templates:

Genomic DNA: 10–200 ng
Plasmid DNA : 1–5 ng
cDNA : ~100 ng starting total RNA

Amplification of longer targets (up to 15 kb) may be possible, but may require more template and longer elongation times.

Primers
Use 0.3 μM per primer as a general starting point. For larger amounts of template (e.g., 200 ng genomic DNA), increasing the concentration up to 0.5 μM per primer may improve yield.

Annealing Temperature
The annealing temperature is slightly higher than with typical PCR. The optimal annealing temperature should be ~2˚C lower than the Tm of the primers used. A range of 58–68˚C is recommended.

Extension Time: As little as 30 seconds per kb is suitable for most targets. Use up to 60 seconds per kb for maximum yield.

PCR Protocol
The following procedure is suggested as a starting point when using Hi Fi Polymerase in any PCR amplification.

1. Add the following components to an autoclaved micro centrifuge tube at room temperature. Mix of common components to enable accurate pipetting):

Component	Volume
Hi Fi polymerase	0.5-1ul
10X buffer	10 ul
10mM dNTP	2 ul
Primer1 (20 pmol)	2-4 ul
Primer2 (20 pmol)	2-4 ul
template	1-10 ul
ddH_2O	Up to 100 ul
Total	100 ul

1. Program the thermal cycler as follows:

Step	Temperature	Time	Cycle
Initial denaturation	94-96ºC	0.5-2mins	1
Denaturation	94-96ºC	0.2-2mins	15-30
Annealing	50-68	0.2-2mins	
Extension	68-75	1min/1kb	
Final extension	68-75	1-10mins	1

Step
After cycling, maintain the reaction at 4˚C. Samples can be stored at –20˚C until use.

Analyze products using standard agarose gel electrophoresis.

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