Intact Genomics®

Pfu 2x Master Mix

Catalog #	3325	3326
Package Size	50 reactions	200 reactions
Volume	1.25 ml	5 ml
Concentration	N/A	

Description

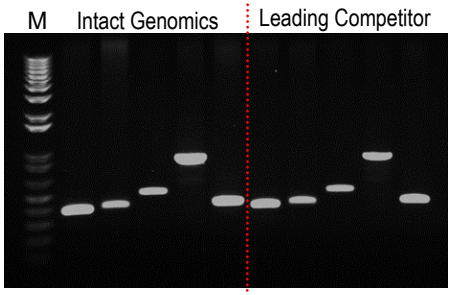
Pfu DNA Polymerase 2x master mix is ready to use pre-mix which contains *Pfu* DNA Polymerase, dNTPs, $MgCl_2$ and stabilizers with optimized reaction buffer. It has been optimized for routine PCR applications. *Pfu* DNA polymerase is a heat stable DNA polymerase which has 5′→ 3′ DNA polymerase and 3′→ 5′ exonuclease (proofreading) activities. *Pfu* DNA polymerase retains the high fidelity, sensitivity and processivity with an error rate six-fold lower than *Taq* DNA polymerase, and significantly lower than the error rates of most other proofreading enzymes or DNA polymerase mixtures (1). This product is supplied with the unique Intact Genomics 5x Magic Enhancer that enables efficient amplification of GC rich templates up to 84%.

Product Source

E. coli strain expressing a *Pfu* DNA Polymerase gene from Pyrococcus furiosus.

Pfu DNA Polymerase Comparison Data

We repeatedly compare our *Pfu* Polymerase side-by-side with a leading competitor for PCR assay. Our enzyme is better than the competitor. A typical gel picture is shown below:



Applications

- Routine PCR
- Primer extension
- Colony PCR
- Genotyping
- Efficient for amplifying high GC content template DNA with Magic Enhancer

Product Includes

1) *Pfu* 2x master mix
2) 5x Magic Enhancer

Storage Temperature

–20 °C

1x Master Mix Composition

10 mM Tris-HCl pH 9.0
50 mM KCl
1.5 mM $MgCl_2$
0.2 mM dNTPs
5% Glycerol
0.08% Igepal CA 630
0.05% Tween-20
100 Units/ml Pfu DNA Polymerase.

Protocol

1. Prepare a reaction mix according to the following table:

PCR reaction set up:	
Template DNA	1-50 ng
Forward primer (5 µM)	1.0 µl
Reverse primer (5 µM)	1.0 µl
Pfu 2x master mix	10.0 µl
5x Magic Enhancer (optional)	4.0 µl
H_2O up to	20.0 µl

2. Mix the reaction mixture thoroughly.
3. Program the thermal cycler according to the manufacturer's instructions.
4. A typical PCR cycling program is outlined in the following table.

PCR Cycling Conditions:			
Steps	**Temp.**	**Time**	**Cycles**
Initial Denaturation	95 ºC	3 min	1
Denaturation	95 ºC	30 sec	25-40
Annealing	50-66 ºC	30 sec	
Extension	72 ºC	1 min/kb	
Final Extension	72 ºC	5 min	1
Hold	4-12 ºC	∞	

5. Place the PCR tubes in the thermal cycler and start the cycling program.
6. Analyze 5 µl of PCR products by agarose gel electrophoresis.

Reference

1. Frey, B. and Suppman, B. (1995). BioChemica. 2, 34-35.

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