

# Pfu 2x Master Mix



<b>Catalog #</b>	3326
<b>Package Size</b>	200 Reactions
<b>Volume</b>	5 ml

## Description

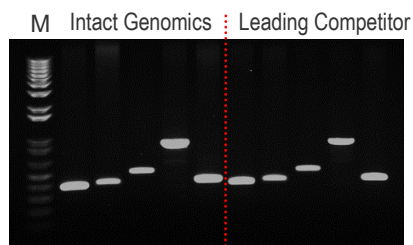
Intact Genomics (ig®) *Pfu* DNA Polymerase 2x Master Mix is a ready to use premix which contains *Pfu* DNA polymerase, dNTPs, MgCl<sub>2</sub> and stabilizers with optimized reaction buffer. It has been optimized for routine PCR applications. *Pfu* DNA polymerase is a heat stable DNA polymerase which 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<sub>2</sub>
- 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
<i>Pfu</i> 2x master mix	10.0 μl
5x Magic Enhancer (optional)	4.0 μl
H <sub>2</sub> O 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 °C	3 min	1
Denaturation	95 °C	30 sec	25-40
Annealing	50-66 °C	30 sec	
Extension	72 °C	1 min/kb	1
Final Extension	72 °C	5 min	
Hold	4-12 °C		∞

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.

## Related Products

- *Taq* DNA Polymerase (Cat.# 3243)
- *Taq* DNA Polymerase 2x Premix with Dye (Cat.# 3249)

## Technical Support

Intact Genomics is committed to supporting the worldwide scientific research community by supplying the highest quality reagents. Each new lot of our products is tested to ensure they meet the quality standards and specifications designated for the product.

Please follow the instructions carefully and contact us if additional assistance is needed. We appreciate your business and your feedback regarding the performance of our products in your applications.