

GOTAQ DNA POLYMERASE GREEN PREMIX G2

FS-T-0532

Description

GOTAQ DNA Polymerase Green Premix G2 is a thermally stable, processive, 5'-3' DNA polymerase. The 94 kDa protein possesses an inherent 5'-3' nick-translation moiety and lacks a 3'-5' proofreading function. GOTAQ DNA Polymerase Green Premix G2 is provided with 5X Green Buffer, 5X Colorless Buffer. The 5X Green Buffer contains loading dye for direct electrophoresis. And the 5X Colorless Buffer is used when direct fluorescence or absorbance readings are required without prior purification of the amplified DNA from the PCR. Both buffers contain MgCl₂ at a concentration of 7.5mM for a final concentration of 1.5mM in the 1X reaction.

**Equivalent to GoTaq G2 DNA Polymerase*

Kit Contents

Contents	FS-T-0532
GOTAQ DNA Polymerase Green Premix G2 (5U/μl)	500 U
5X Green Buffer	1 Vial
5X Colorless Buffer	1 Vial

Storage Buffer

20mM Tris-HCl, 1mM dithiothreitol, 0.1mM EDTA, 100mM NaCl, Stabilizer, 50% glycerol, pH 8.0 (25°C).

5X Green Buffer

Proprietary formulation supplied at pH8.7 containing blue dye and yellow dye. The buffer contains Tris-HCl, KCl and 7.5mM magnesium. Vortex thoroughly after thawing and prior to use.

5X Colorless Buffer

Proprietary formulation supplied at pH8.7 contains Tris-HCl, KCl and 7.5mM magnesium. Vortex thoroughly after thawing and prior to use.

Unit Definition

1 unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 75°C.

Storage Conditions

Store all components at -20°C in a non-frost-free freezer.

Quality Control

No endonuclease activity, nicking activity, exonuclease activity, or priming activity has been detected.

Recommended Protocol

On ice, prepare each of following master mixes, combine, and place in heated (to 95°C) thermal cycler:

For 50μl PCR Reaction	Volume	Final
GOTAQ DNA Polymerase Green PremixG2(5U/μl)	0.25 μl	1.25 U
5X Green Buffer (or Colorless Buffer)	10 μl	1 X
dNTP mix (10 mM each)	2 μl	0.2 mM
Template DNA	X μl	< 0.5 μg
Forward Primer	X μl	0.1~1 μM
Reverse Primer	X μl	0.1~1 μM
Distilled water	up to 50 μl	

General Cycling Conditions :

Step	Temp (°C)	Time	Cycle
Initial Denaturation	95	2 min.	1
Denature	95	30 ~ 60 sec.	25 ~ 40
Anneal	50~65	30 ~ 60 sec.	
Extend	72	60 sec./kb	
Final Extension	72	5 min.	1

Notice:

Cycling conditions may need to be optimized, depending on different primer and template combinations. For example, raise the annealing temperature to prevent non-specific primer binding, increase extension time to generate longer PCR products.

Buffer Choice

We recommend using the 5X Green Buffer in any amplification reaction that will be visualized by agarose gel electrophoresis followed by ethidium bromide staining. The 5X Green Buffer is not recommended for any downstream applications using absorbance or fluorescence excitation, as the yellow and blue dyes in the reaction buffer may interfere with these applications. The Green and Colorless Buffers give approximately equivalent amplification yields. Balanced amplifications between the two buffers may require further optimization.

For application using absorbance or fluorescence, the 5X Colorless Buffer is recommended.

For Research Use Only

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