Invitrogen[™] Platinum[™] *Taq* Green Hot Start DNA Polymerase



Pub. no. MAN0014006 Rev. A.0

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Package contents

Size Catalog number 11966-018 120 rxns 11966-026 300 rxns 11966-034 600 rxns





Store all contents at -20°C.

11966-083

- Template: cDNA, gDNA, λDNA
- Forward and reverse gene-specific primers
- Invitrogen[™] 10 mM dNTP mix (Cat. no. 18427-088)

5000 rxns

- - Required materials
- Water, nuclease-free
- Invitrogen[™] E-Gel[™] General Purpose Gels, 1.2% (Cat. no. G5018-01)
- Invitrogen[™] TrackIt[™] 1 kb Plus DNA Ladder (Cat. no. 10488-085)
- 0.2 or 0.5-mL nuclease-free microcentrifuge tubes



Timing

Varies depending on amplicon length



Selection auide

PCR Enzymes and Master Mixes

Go online to view related products.

- Platinum[™] Taq DNA Polymerase is a recombinant Taq polymerase complexed with a proprietary antibody that blocks the polymerase activity at ambient temperatures.
- Activity is restored after the initial denaturation step in PCR cycling at 94°C, providing an automatic "hot start" and offering increased sensitivity, specificity, and yield, while allowing reaction assembly at room temperature.



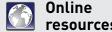
Product description

- 10X Green PCR buffer is supplemented with two tracking dyes (a blue dye and a yellow dye) and a density reagent for direct loading of PCR products on gels. The dyes in the buffer do not interfere with PCR performance and are compatible with downstream applications such as fluorescent automatic DNA sequencing, ligation, and restriction digestion.
- This enzyme has a non-template-dependent, terminal transferase activity that adds a single deoxyadenosine (A) to the 3' ends of PCR products. Like standard *Taq* polymerase, it has both 5' to 3' polymerase and 5' to 3' exonuclease activity, but lacks 3' to 5' exonuclease activity.



Important guidelines

f Click here for important PCR guidelines.



Visit our product page for additional information and protocols. **resources** For support, visit thermofisher.com/techresources.

For Research Use Only. Not for use in diagnostic procedures.

Enzyme characteristics

Hot-start: Antibody Up to 5 kb Length:

Fidelity vs. *Taq*: 1X

Format: Separate components

PCR setup

Use the measurements below to prepare your PCR experiment, or enter your own parameters in the column provided.

Component	25-µL rxn	50-μL rxn	Cus	tom	Final conc. in 50-µL rxn	
Water, nuclease-free	to 25 µL	to 50 µL	to	μL	_	
10X Green PCR Buffer, – Mg	2.5 µL	5 µL		μL	1X	
50 mM MgCl ₂	0.75 µL	1.5 µL	μL		1.5 mM	
10 mM dNTP mix	0.5 µL	1 μL		μL	0.2 mM each	
10 μM forward primer	0.5 µL	1 μL		μL	0.2 μΜ	
10 μM reverse primer	0.5 µL	1 μL	μL		0.2 μΜ	
Template DNA	varies	varies	μL		<500 ng/rxn	
KB Extender (optional)*	varies	varies		μL	3–9%	
Platinum [™] <i>Taq</i> DNA Polymerase	0.1 μL	0.2 μL		μL	2 U/rxn	

^{*} Recommended for targets >5 kb or with >65% GC sequences.

PCR protocol

1 See page 2 for instructions to prepare and run your PCR experiment.

Optimization strategies

Click here for guidelines to optimize your PCR experiment.

Purchaser notification

1 Click here for Limited warranty, Disclaimer, and Licensing information.



The example PCR procedure below shows appropriate volumes for a single $50-\mu L$ reaction. For multiple reactions, prepare a master mix of components common to all reactions to minimize pipetting error, then dispense appropriate volumes into each 0.2-0.5 mL PCR tube prior to adding template DNA and primers.

	Steps	Action	Procedure details						
1		Thaw reagents	Thaw, mix, and briefly centrifuge each component before use.						
		Add the following components to each PCR tube. Note: Consider the volumes for all components listed in steps 2 and 3 to determine the correct amount of water required to reach your final reaction volume.							
		Prepare PCR master mix	Component			50-μL rxn	Final	conc.	
	1 1		Water, nuclease	Water, nuclease-free		to 50 µL			
	2		10X Green PCR Buffer, minus Mg		5 μL	1	X		
2			50 mM MgCl ₂		1.5 µL	1.5	mM		
			10 mM dNTP r	nix		1 μL	0.2 ml	M each	
			KB Extender (optional)*			1.5–4.5 μL	3-	9%	
			Platinum [™] <i>Taq</i> DNA Polymerase		0.2 μL	2 U.	/rxn		
			*For targets >5 kb or with >65% GC sequences.						
			Mix and then briefly centrifuge the components.						
			Add your template DNA and primers to each tube for a final reaction volume of 50 µL.						
3	Add template DNA and	Component		50-μL rxn	Fina	l conc.			
		10 μM forward primer		1 μL	0.2	μΜ			
		primers	10 μM reverse primer		1 μL	0.2	μΜ		
			Template DNA		varies	<500 t	ng/rxn		
			Cap each tube, mix, and then briefly centrifuge the contents.						
		Incubate reactions in a thermal cycler	Step		Temperature		Time		
	.		Initial denaturation			94°C		2 minutes	
			25–35 PCR cycles	Denature		94°C		30 seconds	-
4				Anneal	~55°C	C (depending on primer T _m)		30 seconds	-
		Ex	Extend	72°C		1 minute/kb	-		
		Hold		4°C		indefinitely			
5	Philippi.	Analyze with gel electrophoresis	Analyze the sample using agarose gel electrophoresis. Note: PCR mixes prepared using the 10X Green PCR buffer are ready for direct loading on the gels; addition of loading buffer is not needed.						
V		Use your PCR product immediately in down-stream applications, or store it at −20°C.							

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