

GoTaq® Hot Start Polymerase

Hot Start PCR

Hot Start PCR increases amplification specificity and yield by creating conditions that minimize the possibility of non-specific priming, primer-dimer formation or other reactions. Such conditions can occur at low temperatures once all the PCR components are mixed. Unwanted side reactions occurring during the PCR process usually begin at room temperature or while the thermal cycler is heating to the initial denaturation temperature. These spurious reactions can be minimized by performing “Hot Start” amplification. In general, hot start techniques limit the availability of an essential reaction component until an elevated temperature is reached.

GoTaq® Delivers Robust, Reliable Performance

Experience improved PCR performance with GoTaq DNA Polymerase products. GoTaq DNA Polymerase is a proprietary formulation of *Taq* DNA polymerase that gives robust amplification and reliable performance – every time.

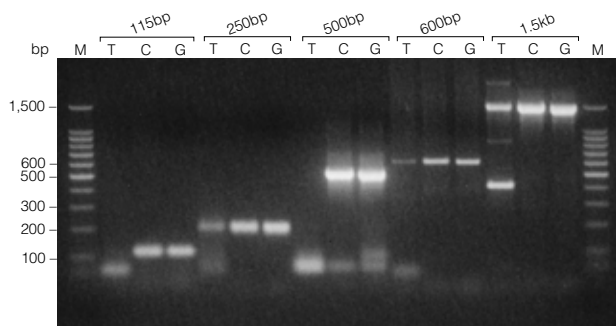
GoTaq® Hot Start Polymerase

GoTaq Hot Start Polymerase^(a,b) contains the high-performance GoTaq DNA Polymerase bound to a proprietary antibody that blocks polymerase activity. The polymerase activity is restored during the initial denaturation step when the amplification reactions are heated at 94–95°C for two minutes. This allows for hot-start PCR where polymerase activity is eliminated or minimized at temperatures below 70°C.

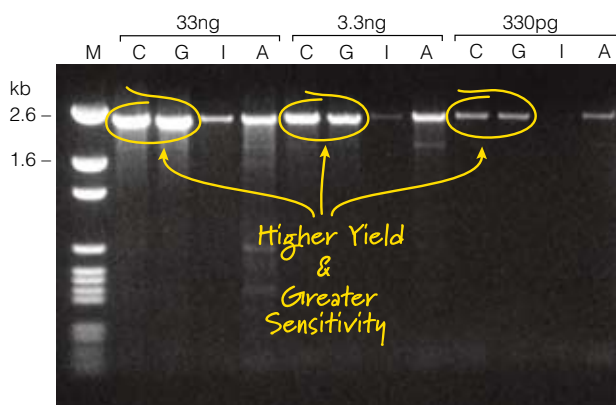
- **Easy and Convenient Handling:** Set up your reaction at room temperature, eliminating the need for setting up on ice.
- **High Specificity:** Minimize non-specific amplification and primer-dimer formation.
- **Easy Optimization:** Control the magnesium in your reaction for specialized templates.
- **Fast Activation:** Two-minute enzyme activation preserves enzyme activity.
- **Enhanced Yield and Sensitivity:** The proven, robust amplification and sensitivity of GoTaq now with a built-in hot start.
- **Improved Productivity:** Go directly from PCR to gel analysis. GoTaq Reaction Buffer serves as both reaction buffer and gel-loading solution.

GoTaq® Hot Start Master Mixes

GoTaq® Hot Start Master Mixes are pre-mixed, ready-to-use solutions containing GoTaq® Hot Start Polymerase, magnesium, dNTPs, and buffer. Reactions can be set up in less than a minute at room-temperature; simply add your template, water



GoTaq® Hot Start Polymerase with Colorless Flexi Buffer (C) and with Green Flexi Buffer (G) shows improved amplification over standard *Taq* DNA Polymerase (T) for amplification of: 115bp HIV-gag fragment from 5 copies of HIV-1 DNA; 250bp THO1 fragment from 250pg human genomic DNA; 500bp CCR5 fragment from 330pg human genomic DNA; 520bp Lambda fragment from 40 copies of Lambda DNA in 500ng human genomic DNA; and a 1.5kb fragment of Corynebacterium *omega* gene from 500pg plasmid DNA template.



GoTaq® Hot Start Polymerase with Colorless Flexi Buffer (C) and with Green Flexi Buffer (G) outperforms antibody (I) or chemically modified (A) competitor hot-start DNA polymerases for amplification of a 2.4kb fragment of the Human APC gene.

and primers. The master mixes are available with either green or colorless reaction buffers, which also serve as loading buffer allowing you to go directly from thermal cycler to gel analysis. GoTaq® Hot Start Master Mixes offer the specificity and sensitivity of an antibody-based hot start polymerase in a convenient, easy-to-use, time-saving format.

Go Directly to Gel

GoTaq® 5X Green and 5X Colorless Reaction Buffers contain a compound that increases sample density, so that samples sink easily into the wells of an agarose gel. The 5X Green buffer contains blue and yellow dyes that migrate at the same rate as 3–5kb DNA fragments (blue) and ahead of primers (yellow) in a 1% agarose gel. The 5X Colorless buffer is perfect for post-amplification analysis by fluorescence or absorbance without prior purification of the DNA.



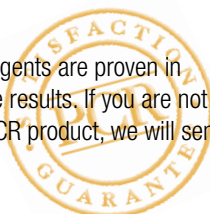
Compatible with Upstream and Downstream Applications

GoTaq products are compatible with the following applications:

- First-strand cDNA synthesis reactions generated using the AMV RT-based Reverse Transcription System (Cat.# A3500) or the ImProm-II™ Reverse Transcription System (Cat.# A3800).
- Subcloning into the pGEM®-T and pGEM®-T Easy Vector Systems (Cat.# A3600, A1360).
- Cell-free expression with the TnT® T7 Quick for PCR DNA in vitro Transcription/Translation System (Cat.# L5540).
- Post amplification clean-up using Wizard® SV Gel and PCR Clean-Up System (Cat.# A9281).
- And much more...

PCR Performance Guarantee

Promega PCR systems, enzymes and reagents are proven in PCR to ensure reliable, high-performance results. If you are not completely satisfied with any Promega PCR product, we will send a replacement or refund your account.



Ordering Information

Product	Size	Cat.#
GoTaq® Hot Start Polymerase	100u	M5001
	500u	M5005
	2,500u	M5006
	10,000u	M5008
GoTaq® Hot Start Green Master Mix	100 reactions	M5122
	1,000 reactions	M5123
GoTaq® Hot Start Colorless Master Mix	100 reactions	M5132
	1,000 reactions	M5133
GoTaq® DNA Polymerase	100u	M3001
	500u	M3005
	2,500u	M3008
GoTaq® Flexi DNA Polymerase	100u	M8291
	500u	M8295
	2,500u	M8296
	5,000u	M8297
	10,000u	M8298
GoTaq® Green Master Mix	100 reactions	M7122
	1,000 reactions	M7123
GoTaq® Colorless Master Mix	100 reactions	M7132
	1,000 reactions	M7133
GoTaq® PCR Core System I	200 reactions	M7660
GoTaq® PCR Core System II	200 reactions	M7665
5X Green GoTaq® Reaction Buffer	20ml	M7911
5X Colorless GoTaq® Reaction Buffer	20ml	M7921
5X Green GoTaq® Flexi Reaction Buffer	20ml	M8911
5X Colorless GoTaq® Flexi Reaction Buffer	20ml	M8901

* U.S. Pat. No. 6,242,235, Australian Pat. No. 761757, Canadian Pat. No. 2,335,153 and other patents and patents pending.

* Licensed under U.S. Pat. Nos. 5,338,671 and 5,587,287 and corresponding patents in other countries.

GoTaq® DNA Polymerase Family

GoTaq® Hot Start Polymerase is part of the GoTaq® DNA Polymerase family which comes in a variety of formulations designed to give you maximum flexibility, control and convenience. Choose the GoTaq with the features you need:

	Superior Amplification	Higher Specificity	Direct-to-Gel Loading	Master Mix Formulation	dNTPs Included	Colorless Loading Buffer	Green Loading Buffer	Magnesium Supplied Separately	Easy and Convenient Room Temperature Set-up	Controls Supplied Separately
GoTaq® Hot Start Polymerase	✓	✓	✓			✓	✓	✓	✓	
GoTaq® Hot Start Green Master Mix	✓	✓	✓	✓	✓		✓		✓	
GoTaq® Hot Start Colorless Master Mix	✓	✓	✓	✓	✓	✓			✓	
GoTaq® DNA Polymerase	✓		✓			✓	✓			
GoTaq® Flexi DNA Polymerase	✓		✓			✓	✓	✓		
GoTaq® Green Master Mix	✓		✓	✓	✓		✓			
GoTaq® Colorless Master Mix	✓		✓	✓	✓	✓				
GoTaq® PCR Core System I	✓		✓		✓*	✓	✓	✓		
GoTaq® PCR Core System II	✓		✓		✓*	✓	✓	✓		✓

*dNTPs supplied as a separate kit component.

