Gold Taq Hot-Start Polymerase

P. Code	Units	Volume	Component	Description	Lot Number	Expiry
HST-500	500	1 x 0.1 mL	Gold Taq Hot-Start Polymerase	Enzyme in storage buffer at 5 U/µL		
		4 X 1 mL	5X Gold Taq Hot-Start Reaction Buffer	5X Concentrated, 200 µM dNTPs, 3 mM $MgCl_2$ in optimised buffer.		
HST-2500	2500	5 x 0.1 mL	Gold Taq Hot-Start Polymerase	Enzyme in storage buffer at 5 U/µL		
		20 X 1 mL	5X Gold Taq Hot-Start Reaction Buffer	5X Concentrated, 200 µM dNTPs, 3 mM $MgCl_2$ in optimised buffer.		

Applications

- Hot Start PCR up to 6 kb
- qPCR (probe- or dye-based)
- Fast PCR
- Multiplex PCR
- Genotyping
- Amplification of GC- and AT-rich templates
- TA Cloning
- High Resolution Melting

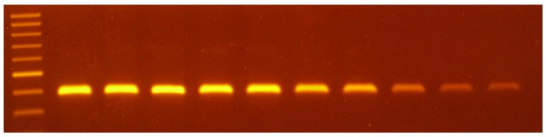
Product Description

Gold Taq Hot-Start Polymerase is a high-sensitivity DNA polymerase specifically engineered for hot-start PCR applications. This enzyme's activity is inhibited at room temperature by a small molecular inhibitor, which is released upon heating, ensuring the enzyme is only active during the PCR cycling process. This feature produces highly specific and sensitive amplification, effectively preventing non-specific amplification and primer-dimer formation.

Paired with the optimised buffer, this enzyme excels in demanding PCR applications, including the amplification of complex or long templates, and is compatible with rapid cycling protocols. Gold Taq Hot-Start Polymerase matches the accuracy of standard Taq DNA Polymerases, producing A-tailed products ideal for TA cloning vectors.

Key Features

- Highly specific and sensitive Hot-Start polymerase gives confidence in PCR amplifications.
- Broad range of templates and conditions.
- Extremely stable—can be freeze thawed many times.
- Optimised buffer allows easy GC-rich amplification.



Gold Taq Hot-Start Polymerase exhibits excellent yields and sensitivity. PCR amplification of 390 bp fragment *HFE1,* from human gDNA, 1 in 3 serially from left to right, 33 ng to 0.6 pg/µL.

Protocol

This products is to be used as follows.

Thaw all reagents completely and mix well before use.

Prepare a master mix as described in the table below. This reaction can be scaled according to the quantity of reactions required.

Mix gently, avoiding bubbles, centrifuge if necessary.

Include a no template control and positive control as required.

Components	Volume
Gold Taq Hot-Start Polymerase (5 U/µL)	0.25 - 1 µL
5X Gold Taq Hot-Start Reaction Buffer	10 µL
Primers	x µL
Template	y µL
Just Water (Molecular Grade Water)	z µL (up to 50 µL)

Thermocycling

Transfer the reactions to the thermal cycler and set as follows:

Cycles	Temperature	Time
1	95°C	1-5 min
25-40	95°C	15 sec
	55-65°C	15 sec
	72°C	1-60 sec

Annealing temperature (55-65°C) may require optimisation depending on the specific primers in use.

The run time can be shortened by optimising the steps of the thermocycling profile. The extension time is to be increased depending on amplicon length, use 15 sec/kb.

For research use only

Product Handling

Storage

To ensure the quality of the product until the expiry date keep at the recommended storage temperature and limit exposure to light.

Contamination Control

To prevent erroneous results ensure work environment is free of contamination by cleaning your workstation and equipment with a DNA decontaminant daily, wear gloves, use sterile tubes and filter pipette tips.

Simple | Effective | Efficient

Version 2.01

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