



73 Ridgeway Road
Candler, NC 28715
800.767.0665

Sales@PhenixResearch.com
www.PhenixResearch.com

Hot Start Taq

Catalogue Numbers:

DNP-H100 500 Units
DNP-H200 2500 Units

Features

- Outstanding and robust performance
- Excellent yield and specificity
- Convenient set up at room temperature
- Available in ready-to-go versions Hot Start Mastermix and Hot Start Mastermix Red

Applications

- Hot-start PCR assays
- Products suitable for TA cloning

Description

Hot Start Taq is a heat-activated thermostable DNA polymerase isolated from a novel organism. It provides improved specificity as compared to standard polymerases and can eliminate the presence of non-specifics, such as primer-dimers and mis-primed products.

Specificity and performance of Hot Start Taq can be further improved with the use of 2x PolyMate Additive, which is designed for GC- or AT-rich DNA, "dirty" templates or sequences with a high level of secondary structure.

Reaction Conditions (for a 50µl reaction)

10x ImmoBuffer	5ul
50mM MgCl ₂	1.5 – 4ul
100mM dNTP Mix (See Below)	0.5 – 1ul
Template and Primers	As required
Hot Start Taq	0.2 – 1ul
Water (ddH ₂ O)	Up to 50ul

PHENIX 100 mM dNTP Mix is available as a separate product (see associated products)

Activation: pre-heating step at 95°C for 10 minutes

Denaturation: 94-96°C

Annealing: depends on primer T_m

Extension: 72°C (allowing 15-30 seconds/kb)

This data is intended for use as a guide only; conditions will vary from reaction to reaction and may need optimization.

General Considerations:

The enzyme must be activated by heat treatment before PCR cycling. All reaction components (including Hot Start Taq) should be added to the reaction, and then **pre-incubated at 95°C for 10 minutes**. Subsequently, the reaction can be treated according to the user's existing protocols for thermostable DNA polymerases.

If the PCR extension time exceeds 3 minutes, program the thermal cycler to run for a maximum of 30 cycles. Increasing the number of cycles may lead to smearing of bands when the samples are run on an agarose gel.

The ideal MgCl₂ concentration in the reaction is likely to be 1.5-2.5mM (final concentration), but some optimization may be necessary to achieve the best possible results. For first tests, use no less than 1 unit of Hot Start Taq in a 50µl reaction.

Product Specifications

Batch details:

Batch No: See vial
Units Per Vial: See vial
Concentration: 5u/ul

Components

	500 Units	2500
Hot Start Taq	100ul	5 x 100ul
10x ImmoBuffer	2 x 1.2ml	10 x 1.2ml
50mM MgCl ₂ Solution	1.2ml	5 x 1.2ml

Reagent Specifications:

10x ImmoBuffer: Proprietary buffer
Separate MgCl₂ solution: 50mM MgCl₂

Storage Conditions:

Hot Start Taq can be stored for 12 months at -20°C.

Shipping Conditions:

On Dry Ice or Blue Ice

Storage and Dilution Buffer:

20mM Tris-HCl, pH 7.5, 100mM NaCl, 0.1mM EDTA, 2mM DTT, 50% Glycerol, and stabilizers.

Associated Activities:

Endonuclease and exonuclease activities were not detectable after 4 hours of incubation of 1µg of pBR322 plasmid DNA and 0.5µg *Hind* III-digested lambda phage DNA at 72°C in the presence of 20u of Hot Start Taq.

Unit Definition:

One unit is defined as the amount of enzyme that incorporates 10nmoles of dNTPs into acid-insoluble form in 30 minutes at 72°C.

Associated Products:

Product Name	Pack Size	Cat No
dNTP Set	4 x 25µmol	DNTP-250
dNTP Mix	500µl	DNTP-M500
ImmoMix	100 Reactions	DNP-H105
Agarose	100g	RPA-2100