

DATA SHEET

Version: 2
Revision date: 05/06/2023

1. Identification

Product name	HotBegan™ Hot Start Taq DNA Polymerase MasterMix
	250rxn
Cat. No	P0030

2. Description

HotBegan™ Hot Start Taq DNA Polymerase MasterMix is an optimized ready-to-use solution containing HotBegan Taq DNA Polymerase (hot start performance), dNTPs, MgCl₂ and stabilizers. It is inactive at room temperature and only requires addition of template, primers, and water.

HotBegan™ Hot Start Taq DNA Polymerase MasterMix is a Taq DNA polymerase bound to a proprietary antibody that blocks polymerase activity until denaturation step occurs. The heat labile antibodies are rapidly inactivated by raising the temperature (4 minutes at 95-97°C). This prevents or minimizes primer-dimer and nonspecific products.

Like the Taq polymerase, the enzyme has 5'→3' polymerase activity and a weak 5'→3' exonuclease activity but no 3'→5' exonuclease activity (proofreading). Before enzyme activation none of enzyme activities are detectable.

3. Composition

Item	Quantity
HotBegan™ Hot Start Taq DNA Polymerase MasterMix	2 x 1.25 mL
Nuclease Free water	2 x 1.25 mL

4. Features

- Inactive at room temperature.
- Adds extra nucleotides (preferentially adenine) without template at 3' ends leaving 3' overhangs PCR fragments. This fact allows the popular TA-cloning or GC cloning.
- Amplifies from a femptograms of DNA targets.

Quality certifications

- Functionally tested in PCR.
- Non detected bacterial DNA (by PCR).
- Not detectable activity of nucleases (endo-, exo, and ribo-).

5. Storage specifications

Store at -20° C

6. Applications

- Real time PCR.
- RT-PCR and quantitative RT-PCR.
- Genotyping with Taqman probes.



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- PCR fragments amplification for TA or GC cloning (preferably use a proofreading polymerase for cloning purpose and a blunt cloning vector) (see pSpark® DNA Cloning System).
- Amplification from a limited DNA template or low copy number genes.

7. Further information

Product Use Limitation	This product is developed, designed and sold exclusively only for research purposes use. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.
Disclaimer	The information provided in this Data Sheet is correct to the best of our knowledge and belief at the date of publication. This information is intended only as a guide and should not be taken as a warranty or quality specification. Canvax Reagents S.L.U. shall not be held liable for any damage resulting from handling or from contact with the above product.

Assay conditions

25mM Tris-HCl pH9.0 at 25°C, 50mM KCl, 2mM MgCl₂, 0.1mg/mL gelatine, 200 µM de dATP, dGTP, dTTP, 100µM Iα₃₂-PIdCTP (0.05µCi/nmol) and 12.5 µg activated salmon sperm DNA.

RECOMMENDED PCR ASSAY (20µL assay)

Components	Volume	Final con.
Hot Began Taq 2X MasterMix	10 µL	1X
Primer Forward (15µM)	1 µL	0.75 pmol/µL
Primer Reverse (15µM)	1 µL	0.75 pmol/µL
Template DNA	plasmid: 30-75ng; gDNA: 100-500ng	1.75-2.50 ng/µL
PCR grade water	to 20 µL	-

Cycling instructions:

- 94°C 5:00,
- 40x (94°C 0:35, Tm 0:35, 72°C 1'/kb),
- 72°C 7:00,
- 4°C ∞

