



## 2x Pre-Aliquoted Thermo-Start® PCR Master Mix, 50µl Reaction

**Description:** Thermo-Start® DNA Polymerase is a chemically modified (patented) version of Thermoprime Plus DNA Polymerase that is inactive until 'switched on' by high temperature incubation. **The enzyme requires an activation step at 95°C for 15 minutes, although a range of temperatures and times can be used, depending on requirements (93–96°C, 10–20 minutes).**

**Ordering Information:** Select the consumable type and size from Table 1 and MgCl<sub>2</sub> concentration from Table 2.

<b>Table 1:</b>		
<b>Cat. No.</b>	<b>Description</b>	<b>Quantity</b>
TS-266-8MM/a	0.2ml Thermo-Strips & Domed Caps	50µl x 12 strips of 8 tubes
TS-266-8MM/b	0.2ml Thermo-Strips & Domed Caps	50µl x 10 x 12 strips of 8 tubes
TS-337-8MM/a	Individual 0.2ml Domed Cap Thermo-Tubes	50µl x 96 tubes
TS-337-8MM/b	Individual 0.2ml Domed Cap Thermo-Tubes	50µl x 10 x 96 tubes
TS-350-8MM/a	Individual 0.5ml Flat Cap Thermo-Tubes	50µl x 96 tubes
TS-350-8MM/b	Individual 0.5ml Flat Cap Thermo-Tubes	50µl x 10 x 96 tubes
TS-489-8MM/a	Individual 0.5ml Domed Cap Thermo-Tubes	50µl x 96 tubes
TS-489-8MM/b	Individual 0.5ml Domed Cap Thermo-Tubes	50µl x 10 x 96 tubes
TS-600-8MM	0.2ml Thermo-Fast® 96 Plates	50µl x 5 plates of 96 wells
TS-620-8MM/a	Individual 0.2ml Flat Cap Thermo-Tubes	50µl x 96 tubes
TS-620-8MM/b	Individual 0.2ml Flat Cap Thermo-Tubes	50µl x 10 x 96 tubes
TS-700-8MM	0.2ml Low Profile Thermo-Fast® 96 Plates	50µl x 5 plates of 96 wells
TS-772-8MM/a	0.2ml Low Profile Thermo-Strips & Domed Caps	50µl x 12 strips of 8 tubes
TS-772-8MM/b	0.2ml Low Profile Thermo-Strips & Domed Caps	50µl x 10 x 12 strips of 8 tubes
TS-773-8MM/a	0.2ml Low Profile Thermo-Strips & Domed Caps	50µl x 12 strips of 8 tubes
TS-773-8MM/b	0.2ml Low Profile Thermo-Strips & Flat Caps	50µl x 10 x 12 strips of 8 tubes
TS-800-8MM	0.2ml Skirted Thermo-Fast® 96 Plates	50µl x 5 plates of 96 wells
TS-848-8MM/a	0.2ml Low Profile Thermo-Strips & Domed Caps	50µl x 8 strips of 12 tubes
TS-848-8MM/b	0.2ml Low Profile Thermo-Strips & Domed Caps	50µl x 10 x 8 strips of 12 tubes
TS-849-8MM/a	0.2ml Low Profile Thermo-Strips & Domed Caps	50µl x 8 strips of 12 tubes
TS-849-8MM/b	0.2ml Low Profile Thermo-Strips & Flat Caps	50µl x 10 x 8 strips of 12 tubes
TS-900-8MM	0.2ml Semi Skirted Thermo-Fast® 96 Plates	50µl x 5 plates of 96 wells
TS-990-8MM	0.2ml Ultra Rigid Semi Skirted Thermo-Fast® 96 Plates	50µl x 5 plates of 96 wells
TS-1000-8MM	0.2ml Ultra Rigid Skirted Thermo-Fast® 96 Plates	50µl x 5 plates of 96 wells
TS-1100-8MM	0.2ml Thermo-Fast® 96 PCR Detection Plate	50µl x 5 plates of 96 wells
TS-1300-8MM	Thermo-Fast® 96 Robotic PCR Plate, Capped	50µl x 10 plates of 96 wells
TS-1400-8MM	Thermo-Fast® 96 PCR Detection Plate Mark II, Capped	50µl x 10 plates of 96 wells
TS-1113-8MM/a	0.2ml Thermo-Strips with Domed Caps	50µl x 8 strips of 12 tubes
TS-1113-8MM/b	0.2ml Thermo-Strips with Domed Caps	50µl x 10 x 8 strips of 12 tubes
TS-1114-8MM/a	0.2ml Thermo-Strips with Flat Caps	50µl x 8 strips of 12 tubes
TS-1114-8MM/b	0.2ml Thermo-Strips with Flat Caps	50µl x 10 x 8 strips of 12 tubes

**Note:** MM denotes Magnesium Chloride concentration

For research purposes only

ABgene House, Blenheim Road, Epsom, Surrey, KT19 9AP, UK

Tel: + 44 (0) 1372 723456, Fax: + 44 (0) 1372 741414, Email: info@abgene.com, Website: www.abgene.com

ABgene® is a registered trademark of Advanced Biotechnologies Ltd.



<b>Cat. No.</b>	<b>MgCl<sub>2</sub> Concentration</b>
TS-xxx-815	1.5mM
TS-xxx-820	2.0mM
TS-xxx-825	2.5mM
TS-xxx-830	3.0mM
TS-xxx-835	3.5mM
TS-xxx-840	4.0mM

**Note:** xxx denotes plastic consumable type

**Example:** **TS-337-825/a**  
**2x Thermo-Start® PCR Master Mix with 2.5mM MgCl<sub>2</sub> (Reaction Volume 50µl), pre-aliquoted into 96 x 0.2ml Domed Cap Thermo-Tubes.**

**Kit Components:** Each well contains 25µl of a 2x working concentration Thermo-Start® PCR Master Mix. The addition of the template and primers (in a volume of 25µl) results in a final reaction volume of 50µl, containing:

- 1.25 units Thermo-Start® DNA Polymerase
- 1x Thermo-Start® Reaction Buffer
- MgCl<sub>2</sub> (see table)
- 0.2mM each of dATP, dCTP, dGTP, dTTP

Thermo-Fast® 96 plates are provided capped with Domed Cap Strips. An extra set of caps for application after the addition of template and primers are included with both plates and Thermo-Strips.

**Storage Conditions:** Store at -20°C until ready for use for up to 1 year. Shipped on ice.

**Associated Activities:** The enzyme has a 5' to 3' polymerisation-dependent exonuclease replacement activity but lacks a 3' to 5' exonuclease activity.

**For research purposes only**



**Thermal Cycler Programming:**

An example of a hot-start thermal cycling programme is given:

Enzyme activation <sup>1</sup>	95°C	15 min	1 cycle
Denaturation	92–95°C	10–30 sec <sup>2</sup>	
Annealing <sup>3</sup>	50–65°C	30 sec	25–30 cycles
Extension	72°C	x min <sup>4</sup>	
Final extension	72°C	5 min	1 cycle

1 – Different thermal cyclers have different temperature control methods. The initial activation step may need to be varied from 10–20 min and from 93–96°C for optimal results.

2 – In complex systems we recommend denaturation of 30 seconds.

3 – Annealing temperature dependent on primers.

4 – Extension times depend on the length of sequence to be amplified (allow 1 minute per kb to be amplified).

**Incremental Activation:**

For extra stringency, the enzyme can be activated gradually during the PCR in a series of steps. The initial activation step is replaced by longer (2 min) denaturation steps for the first 7–8 cycles of the reaction.

Thermo-Star<sup>®</sup> is covered by UK Patent No. GB2,353,530 and corresponding foreign patents and patents pending owned by Advanced Biotechnologies Ltd (ABgene<sup>®</sup>). Thermo-Fast<sup>®</sup> is a registered trademark of Advanced Biotechnologies Ltd (ABgene<sup>®</sup>). A license under the foreign counterparts of U.S. Patents Nos. 4,683,202, 4,683,195 and 4,965,188, owned by F. Hoffman-La Roche Ltd, for use in research and development, has an up-front fee component and a running royalty component. The purchase price of this product includes limited, non-transferable rights under the running-royalty component to use only this TSoout of the product to practice the Polymerase Chain Reaction ("PCR") and related processes described in said patents solely for the research and development activities of the purchaser when this product is used in conjunction with a thermal cycler whose use is covered by the up-front fee component. Rights to the up-front fee component must be obtained by the end user in order to have a complete license. These rights under the up-front fee component may be purchased from Perkin-Elmer or obtained by purchasing an Authorized Thermal Cycler. No right to perform or offer commercial services of any kind using PCR, including without limitation reporting the results of purchaser's activities for a fee or other commercial consideration, is hereby granted by implication or estoppel. Further information on purchasing licenses to practice the PCR process may be obtained by contacting the Director of Licensing at the Perkin-Elmer Corporation, 850 Lincoln Centre Drive, Foster City, California 94404

**For research purposes only**