IsoFast® **Hot Start Bst Polymerase**

- Sensitive & specific
- AptaLock™ hot start
- Rapid results

IsoFast® Hot Start Bst Polymerase & Mixes are powered by Bst DNA polymerase combined with AptaLock™ reversible hot-start technology. These reagents are ideal for all isothermal amplification workflows. Get more sensitive and reliable results faster than ever before.

Features

- AptaLock™ hot start for ultra-sensitive detection of DNA targets
- Rapid polymerisation for faster time to result (as little as 10 mins)
- Detect down to 3 target copies per µL
- Ideal for both cold and room temperature setup
- Improved speed and sensitivity for early target detection
- High activity at a broad range of temperatures from 55-70 ˚C
- Available with and without fluorescent dye, as a 2x mix, and as a colour mix

Applications

- Whole genome amplification
- Multiple displacement amplification
- Isothermal amplification
- LAMP-type amplification
- Molecular diagnostic test developement
- Point-of-care testing

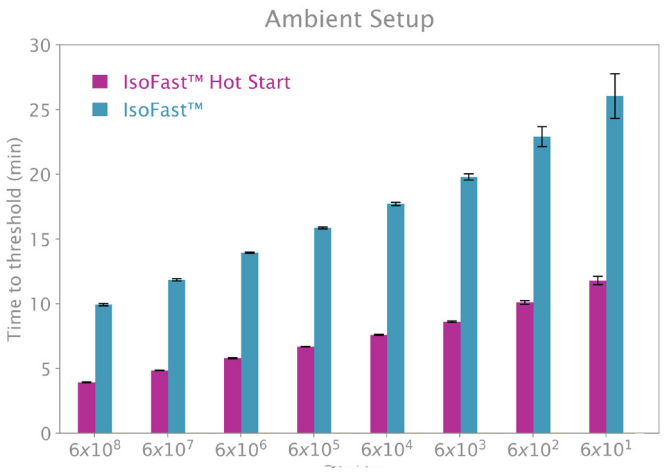

Figure 1. Improved speed with IsoFast® Hot Start Bst Polymerase

Isothermal amplification of the M13 bacteriophage target sequence in the scaffolding protein gene from the M13 bacteriophage genome using IsoFast® Hot Start Bst Mix and IsoFast® Bst Mix. A primer mix consisting of 0.2 µM for F3 and B3 primers, 1.6 µM for FIP and BIP primers and 0.8 µM for LoopF and LoopB primers was used. The total reaction volume was 25 µL. 8 serial dilutions of M13 ssDNA genome were used, starting with a stock of 0.5 ng/µL and using a dilution factor of 10, corresponding to the number of genome copies indicated in the plot. The reaction was run at 65 ˚C for 100 minutes. A BioRad CFX96 Touch instrument was used to record fluorescence every 10 seconds. The time to threshold indicates the time required to reach the same fluorescent threshold.

IsoFast® Hot Start Bst Mix shows faster amplification when compared to IsoFast® Bst Mix.

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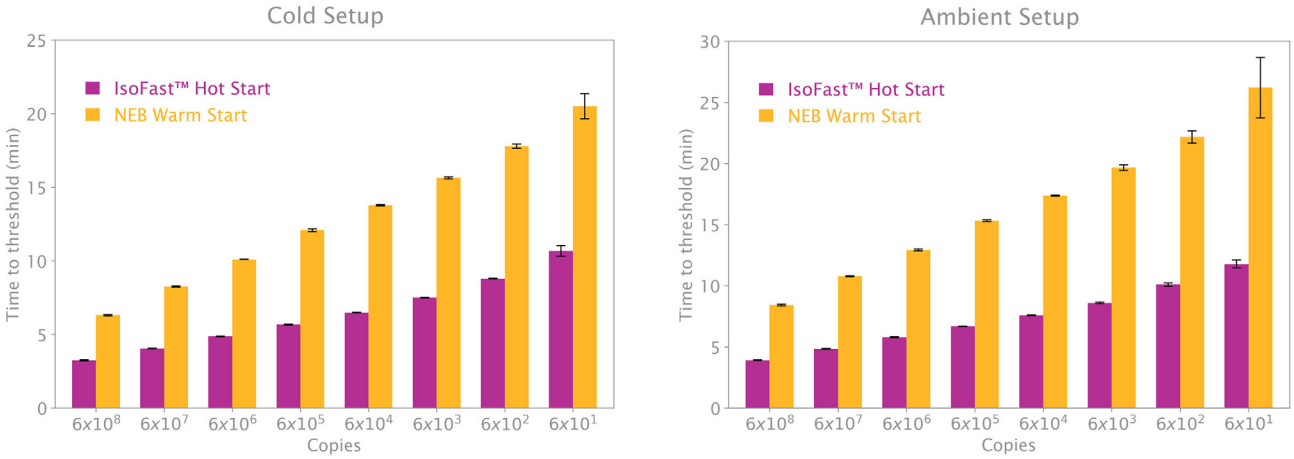

Figure 2. Faster detection with both cold and ambient setup

Isothermal amplification of a target sequence in the scaffolding protein gene from the M13 bacteriophage genome using IsoFast® Hot Start Bst Mix and NEB WarmStart LAMP Kit. A primer mix consisting of 0.2 µM for F3 and B3 primers, 1.6 µM for FIP and BIP primers and 0.8 µM for LoopF and LoopB primers was used. The total reaction volume was 25 µL. 8 serial dilutions of M13 ssDNA genome were used, starting with a stock of 0.5 ng/µL and using a dilution factor of 10, corresponding to the number of genome copies indicated in the plot. Reaction master mixes and plates were prepared either using cold blocks (cold setup) or at room temperature (ambient setup), for approximately 20 min. The reaction was run at 65 ˚C for 100 min. A BioRad CFX96 Touch instrument was used to record fluorescence every 10 seconds. The time to threshold indicates the time required to reach the same fluorescent threshold.

IsoFast® Hot Start Bst Mix shows faster amplification when compared to NEB WarmStart LAMP Kit, both under cold and ambient setup.

Hot start isothermal amplification

IsoFast® Hot Start Bst Polymerase is a recombinant version of the large fragment of *Geobacillus stearothermophilus* (formerly known as *Bacillus stearothermophilus*, Bst) DNA polymerase. It is engineered to retain 5'-3' polymerase activity, but lacks 5'-3' exonuclease activity.

The enzymes' strong strand displacement capability eliminates the need for denaturation required by standard PCR. Combined with powerful hot start technology, to minimise primer dimer formation and non-specific target amplification, this novel mix is ideal for isothermal amplification workflows.

Rapid reliable results

IsoFast® Hot Start Bst Polymerase and Mix outperforms competitor mixes on the tested targets. These formulations enable detection of down to 3 copies per microlitre, with a time to result of as little as 10 minutes, and complete runs in 30 minutes. Researchers retain full flexibility over experimental setup while achieving high test speeds and accurate results.

Catalogue Number	Product Name	Pack Size	Presentation
PB80.40-01	IsoFast® Hot Start Bst Polymerase	1600 Units	[1 x 200 µL 8 U/µL] & [1 x 500 µL Buffer A] & [1 x 1 mL Buffer B]
PB80.40-08		8000 Units	[1 x 1 mL 8 U/µL] & [2 x 1.25 mL Buffer A] & [3 x 1.7 mL Buffer B]
PB80.41-01	IsoFast® Hot Start Bst Polymerase with Dye	1600 Units	[1 x 200 µL 8 U/µL] & [1 x 500 µL Buffer A] & [1 x 1 mL Buffer B] & [2 x 125 µL Dye]
PB80.41-08		8000 Units	[1 x 1 mL 8 U/µL] & [2 x 1.25 mL Buffer A] & [3 x 1.7 mL Buffer B] & [2 x 625 µL Dye]
PB80.42-01	IsoFast® Hot Start Bst Mix	100 Reactions	[1 x 1.25 mL] & [1 x 125 µL Fluorescent Dye]
PB80.42-05		500 Reactions	[5 x 1.25 mL] & [1 x 625 µL Fluorescent Dye]

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