







Bst DNA Polymerase

Optimized for Loop-Mediated Isothermal DNA Amplification (LAMP)

APPLICATION KEY

-  Environmental
-  Human Diagnostics
-  Vet Health
-  Food Testing
-  Water Testing
-  DNA Barcoding

Bst DNA Polymerase is an enzyme derived from the large fragment of *Bacillus stearothermophilus* DNA Polymerase I. It contains 5'-3' DNA polymerase activity and strong strand displacement activity but lacks 5'-3' exonuclease activity. The strong strand displacement activity enables Bst DNA Polymerase to synthesize DNA at a constant temperature making it an ideal enzyme for Loop-Mediated Isothermal DNA Amplification (LAMP). An optimized buffer is included that enhances an assay's amplification speed, yield, salt tolerance and sensitivity.

Bst DNA Polymerase

- Flexible reaction conditions including high salinity
- Fast polymerization
- Optimized for Loop-Mediated Isothermal DNA Amplification (LAMP)
- Reaction buffer and dilution buffers sold separately for maximum flexibility

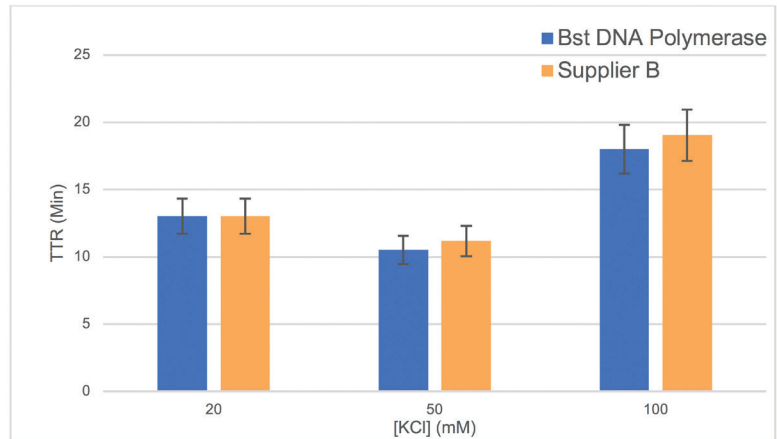
PRODUCT	CAT NO.	VOLUME
Bst DNA Polymerase	MDX012	1 mL
		20 mL
		20 mL *
High Conc. Glycerol-Free Bst	MDX018	80 µL
		800 µL
		800 µL *
Bst Reaction Buffer, 10x	MDX076	5 mL
		100 mL
Enzyme Dilution Buffer, 1x	MDX078	5 mL
		100 mL
Enzyme Dilution Buffer (10X) Glycerol free	MDX080	5 mL
		100 mL

*Enzyme only

Product Highlights

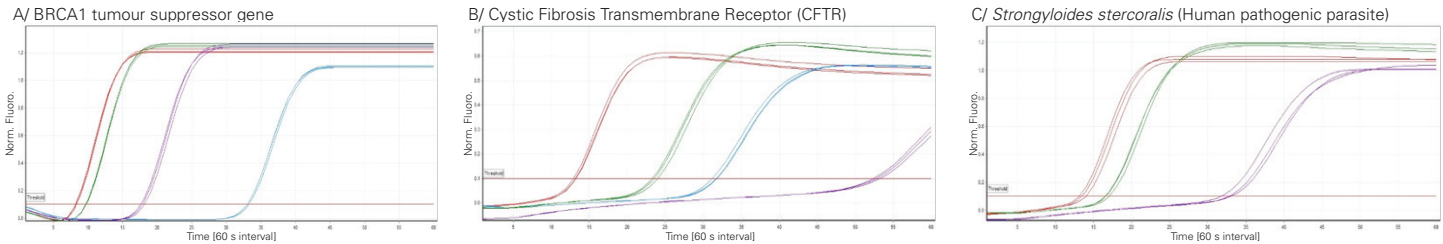
High Salt Tolerance

LAMP reactions were performed with Meridian *Bst* DNA Polymerase and *Bst* from supplier B using increasing amounts of salt (potassium chloride) and the manufacturers recommended protocol. The time to results (TTR) illustrate that Meridian *Bst* DNA Polymerase is as resistant to inhibitors as supplier B's *Bst*.



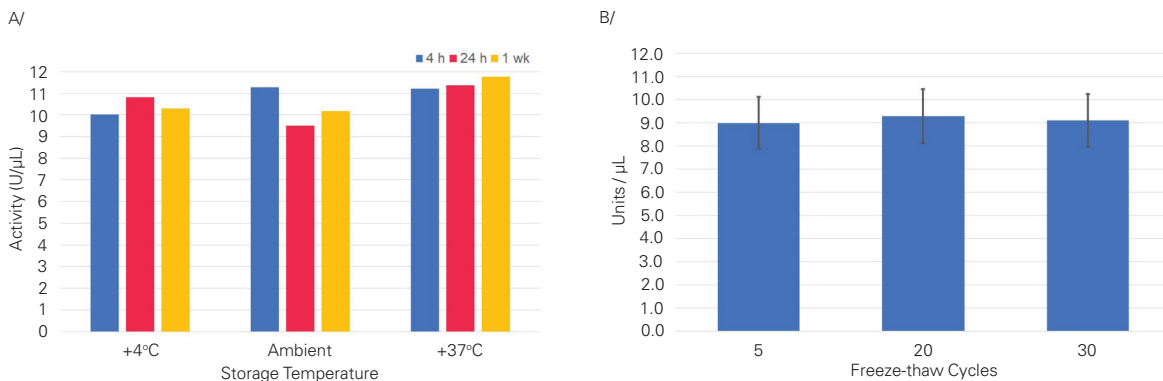
Fast polymerization

LAMP reactions were performed with Meridian *Bst* DNA Polymerase (red) and *Bst* from supplier A (blue), supplier B (green) and supplier C2 (purple), using the manufacturers recommended protocol, amplifying different targets. The results illustrate that Meridian *Bst* DNA Polymerase reactions consistently reach threshold faster than other suppliers of *Bst*.



Highly Stable Polymerase

Bst DNA Polymerase was (A) left at +4°C, ambient (room temperature) or +37°C for 4 hours (blue), 24 hours (red) or 1 week (yellow) and (B) subjected to 5, 20 and 30 rounds of fast freeze/thawing, between -80°C and 0°C. The results illustrate that Meridian *Bst* DNA Polymerase is very robust, withstanding temperatures up to +37°C for a 1 week, or up to 30 freeze/thaw cycles without losing activity. Similar results were obtained with MDX018 (High Conc. Glycerol-Free *Bst*) under the same testing conditions. Data is available on request.



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