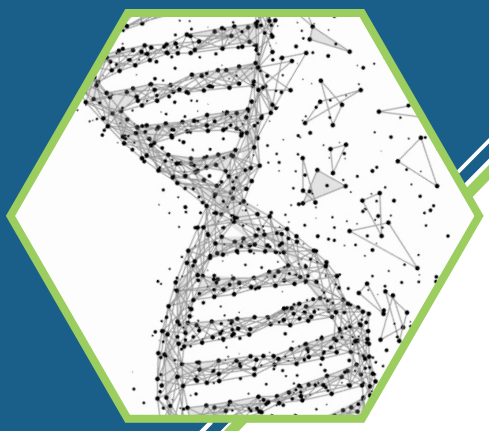
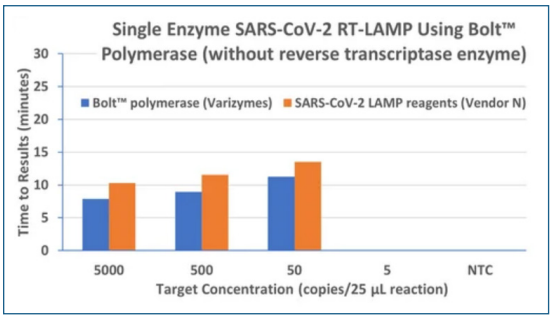


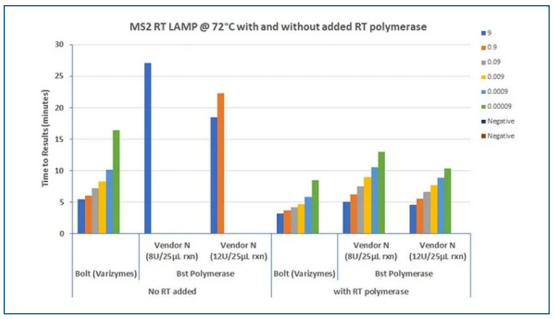
Varizymes
OPTIONS AMPLIFIED

Bolt™ Polymerase

A Single Enzyme for RT-LAMP

Bolt Bst polymerase is a true single-enzyme reagent for developing RT-LAMP assays and is available either in glycerol or glycerol-free (for lyophilization) buffers.





Single Enzyme RT-LAMP

Bolt alone is faster than the two-enzyme blend offered by the competition!

Read more...

Fastest Enzyme to Results

Rapid and sensitive RNA amplification using Bolt Bst polymerase with or without reverse transcriptase (RT).

Read more...

Properties

- Strong strand displacement activity and lacks 5' to 3' exonuclease activity
- Thermotolerant up to 73 °C, resistant to inhibitors
- Fastest time to results compared to competitor's Bst polymerase
- For ease of lyophilization, Bolt Bst polymerase is available with glycerol-free buffer.
- Please note that use of the supplied Varizymes buffer will yield optimal results.
- Robust RT activity, a single enzyme for DNA/RNA templates
- Vendor comparison by independent source Read here.

Varizymes also offers a variety of encapsulated RNA controls for common targets, and we would love to work with you to develop a unique control to suit your needs. For more information visit www.varizymes.com or email info@varizymes.com.

**These products are intended for research use only, not for diagnostic use. The safety andefficacy of these products in diagnostic or other clinical uses has not been established.*

Bolt Bst Polymerase
Catalog No.: 9100

Expressed in: *E. coli*
Contents: Bolt Bst polymerase is provided at a concentration of 8 U/µ L with 10X Isothermal buffer.

Background:
Bolt Bst polymerase is a recombinant, truncated (lacks 5' to 3' exonuclease activity), thermostable *Geobacillus* DNA polymerase with high reverse transcriptase and strand-displacement activities, ideal for isothermal amplification of RNA and DNA targets. Bolt polymerase is engineered to perform at temperatures up to 73 °C and tolerate inhibitors, has increased sensitivity and speed relative to other Bst polymerases, and can incorporate dUTP.

Application Notes:
Bolt Bst polymerase (exonuclease minus), with strong strand-displacement and RT activities can be used for amplification of DNA and RNA in loop-mediated isothermal amplification (LAMP).

**These products are intended for research use only, not for diagnostic use. The safety and efficacy of these products in diagnostic or other clinical uses has not been established.*

Shipping and Storage:
Bolt Bst polymerase is supplied in a buffer of 50% glycerol, 50 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 1 mM EDTA, 0.1% Tween-20, pH 7.5. *Can be supplied in a glycerol-free buffer as a custom order.* **Please note** that use of the supplied Varizymes buffer will yield optimal results.

Bolt Bst polymerase is shipped on dry or blue ice. On arrival store at -20 °C for optimum stability. Repeated freeze/thaw cycles should be avoided.

Quality Control:
- Bolt Bst polymerase Unit activity: A known polymerase is used to create a standard curve with a real-time primer extension assay against which the activity of this enzyme is measured.
- Purity: >95% as determined by SDS-PAGE analysis
- Bolt Bst polymerase is free of detectable RNase and DNase (exo- and endonuclease).
- <0.05 ng contaminating host DNA per 8 U

Setting Up LAMP Reaction

- Prior to setting up LAMP reaction, thaw all reaction components.
- Before use, mix all components by vortexing (5 sec) followed by centrifugation (5 sec)
- Setting up reaction on ice (4 °C) is highly recommended.

Reaction set up:

Component	Stock	Final Conc.	Per Rxn (µL)	Unit
Water			to 25 µL	µL
[1]10X Isothermal Buffer	10	1	2.50	X
[2]$MgSO_4$	100	4	1.00	mM
dNTP mix	10	0.8	2.00	mM
Dye (SYTO-82)	5	0.001	0.005	M
Primer mix	20	1	1.25	X
Bolt™ Bst polymerase	8	0.32	1	U/µL
[3]RT-Polymerase (optional)				
Template			variable	µL
Total			**25.00**	µL

- [1]10X Isothermal Buffer contains 20 mM MgSO4
- [2]We recommend adding 4 mM MgSO4 (on top of the 2 mM MgSO4 contributed by the 10X Isothermal buffer) to start and optimize your assay from there
- [3]For RNA targets only. Bolt polymerase has strong RT activity, however, for faster time to results and increased sensitivity, the use of RT polymerase is recommended
- If using SYTO-82 dye, select HEX channel on instrument.