

Performance and Benchmark Analysis

NZY Bst DNA polymerase

Product No MB444



Molecular biology



Molecular diagnostics



CAZymes



Analytical products

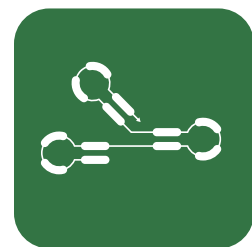


Molecular services

NZY Bst DNA polymerase

Perfected Sensitivity for LAMP Applications

The NZY Bst DNA polymerase, part of a new generation of DNA polymerases, developed and optimized for **standard Loop-mediated isothermal amplification (LAMP) applications** and also suitable for nucleic acid amplification methods requiring strand displacement activity, such as **whole genome amplification (WGA)** and **Multiple displacement amplification (MDA)**.



LAMP Application



WGA & MDA Applications



Activity over a Wide Range of Temperature



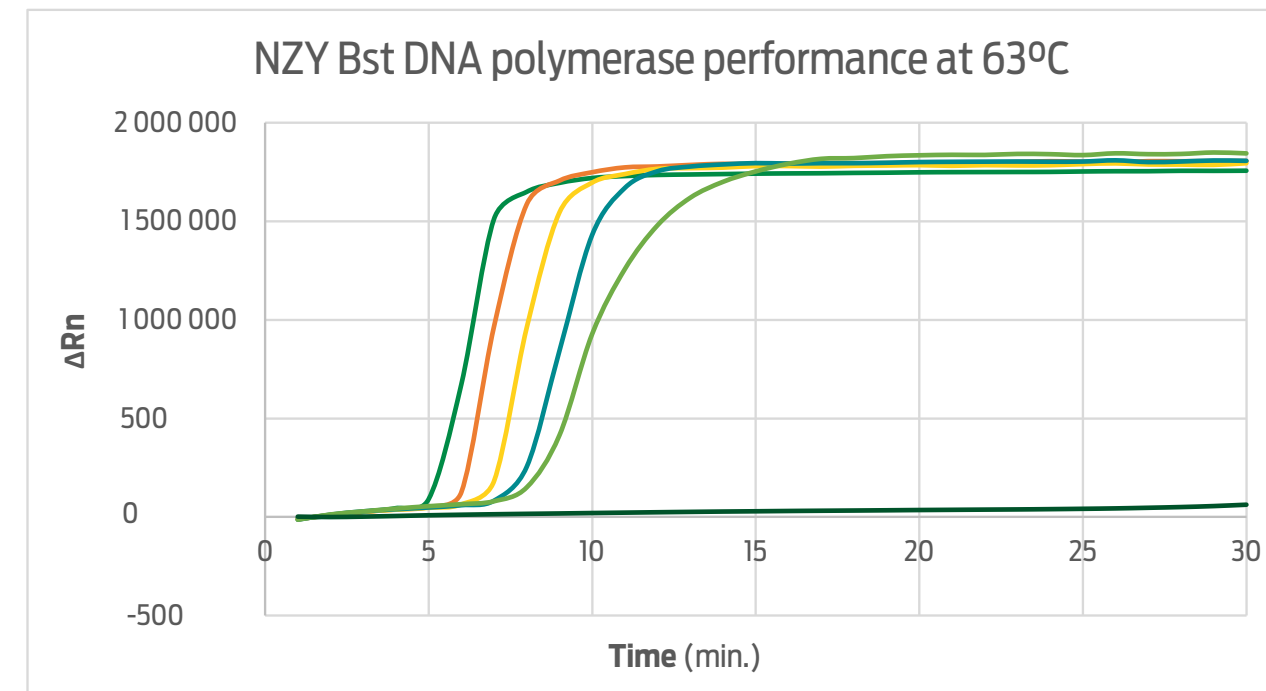
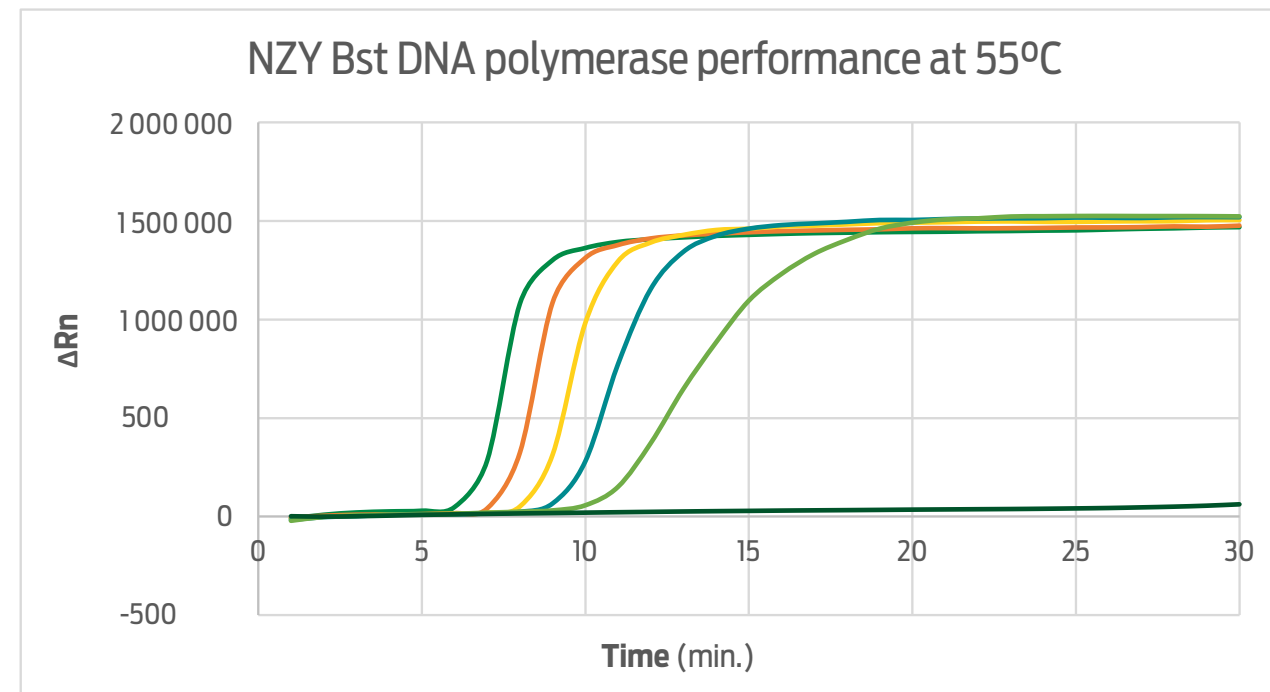
Active over a wide range of temperatures

Fast and consistent isothermal amplification across multiple concentrations of template DNA

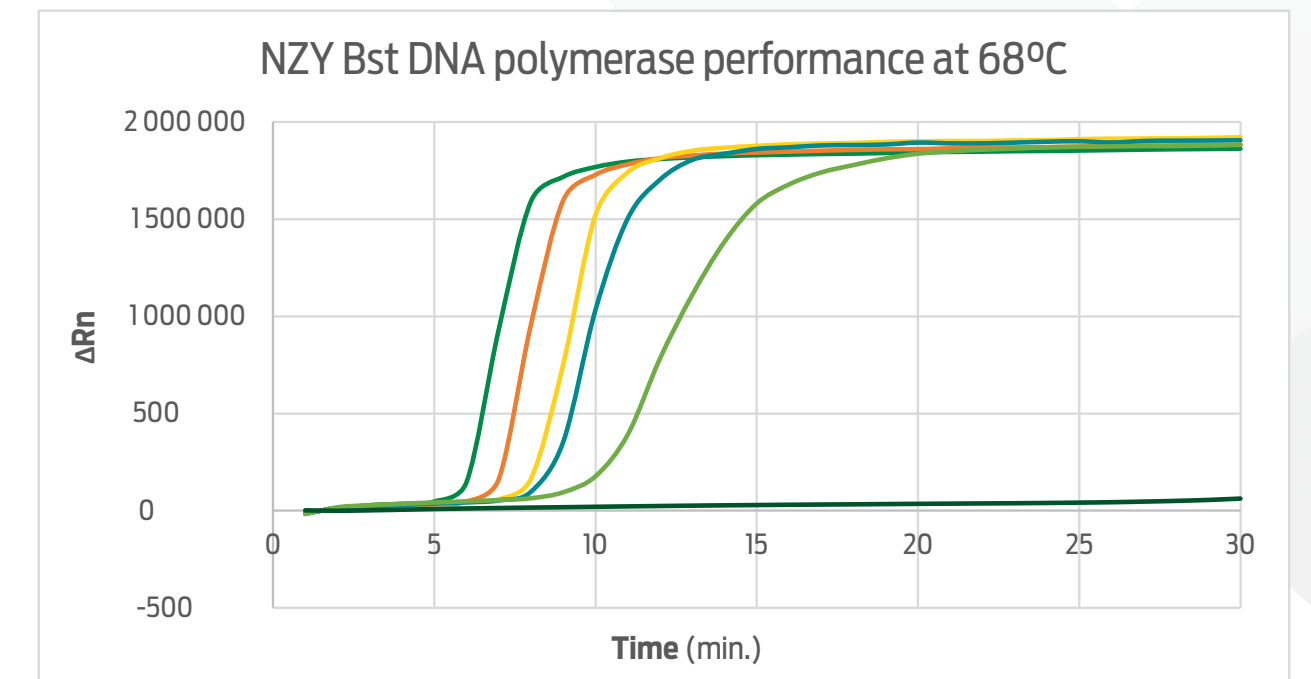
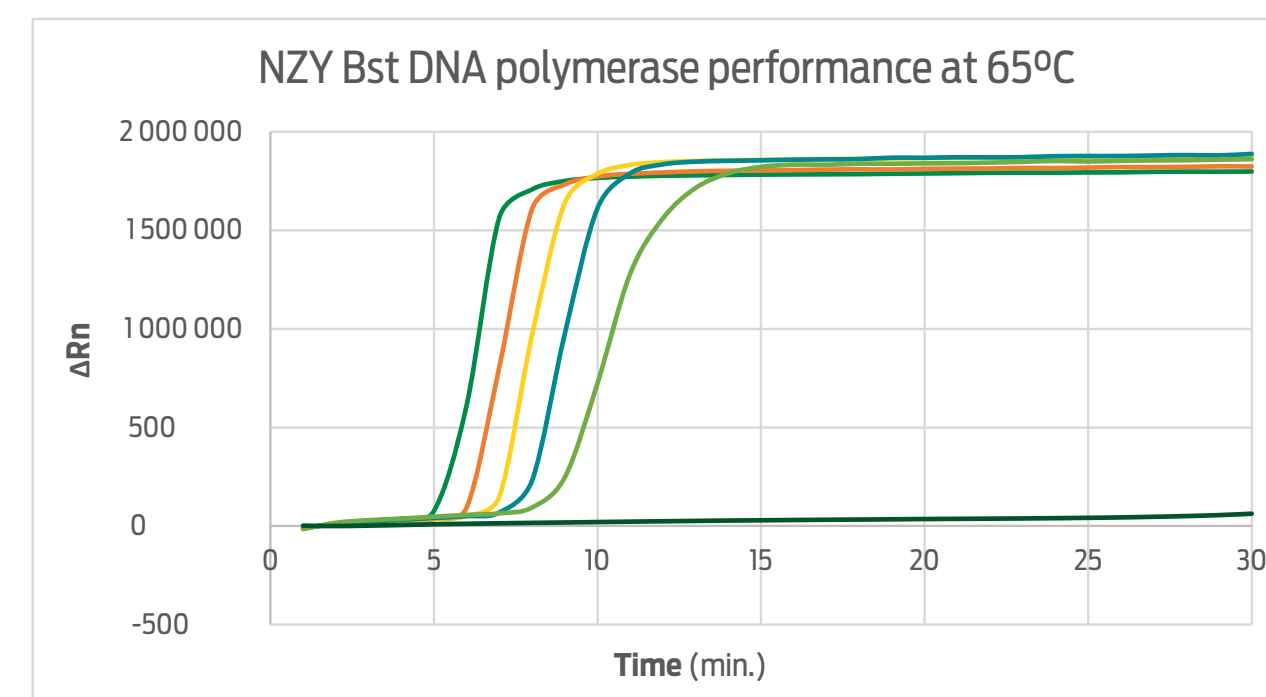
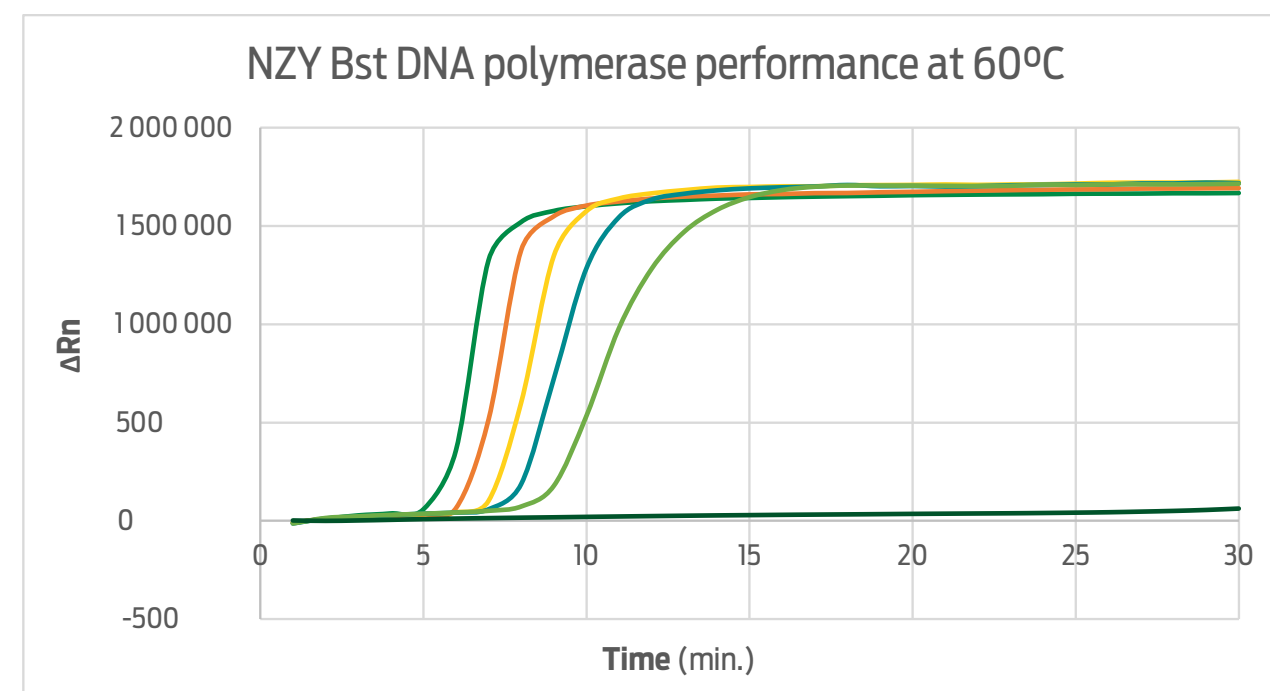
Activity at various temperatures

Optimum Activity at 63°C

NZY Bst DNA polymerase is active over a wide range of temperatures (55°C to 68°C) with an optimum activity exhibited at 63°C.



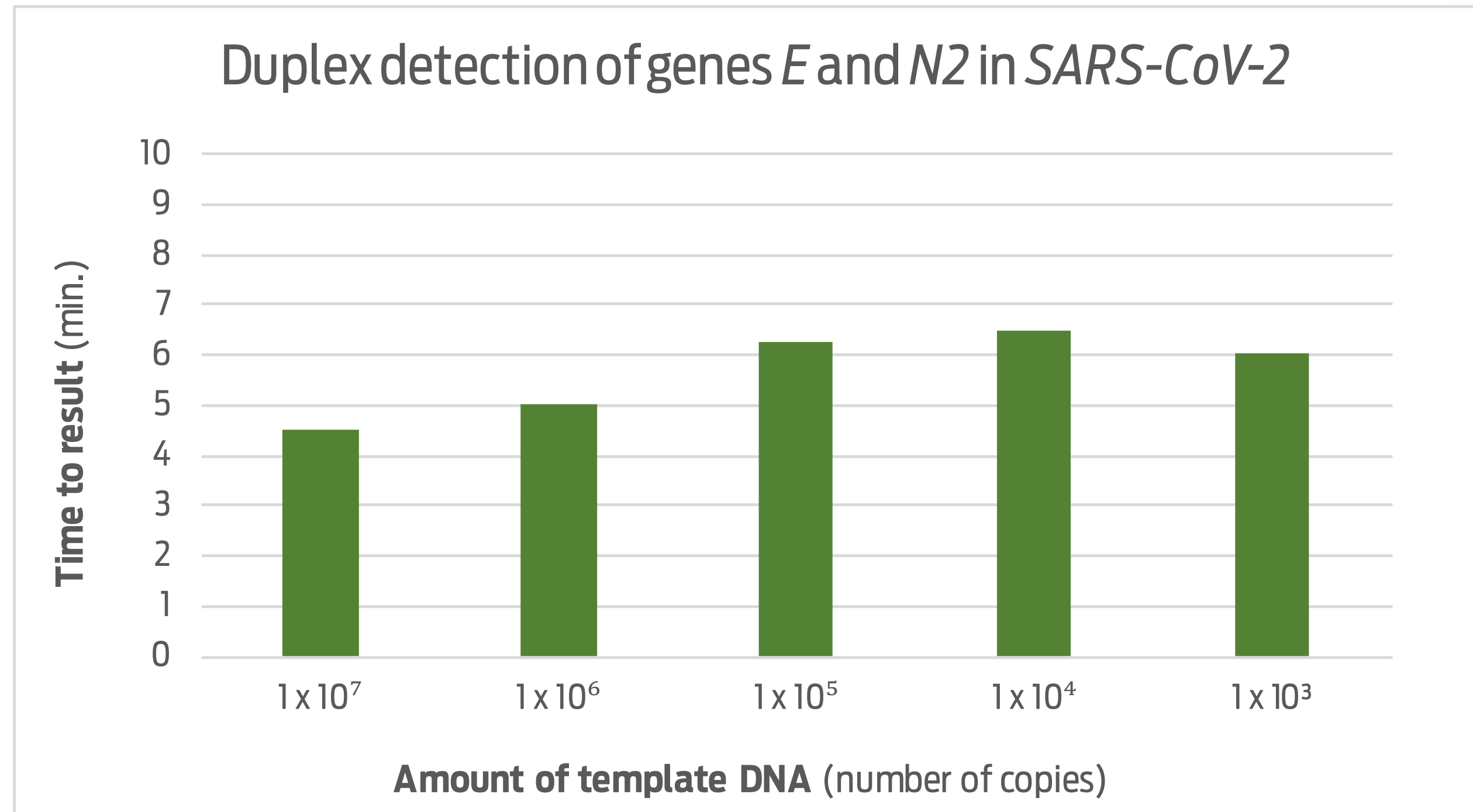
- 1 x 10⁷ copies
- 1 x 10⁶ copies
- 1 x 10⁵ copies
- 1 x 10⁴ copies
- 1 x 10³ copies
- NTC



Enzyme performance based on DNA template concentration

Fast and consistent isothermal amplification

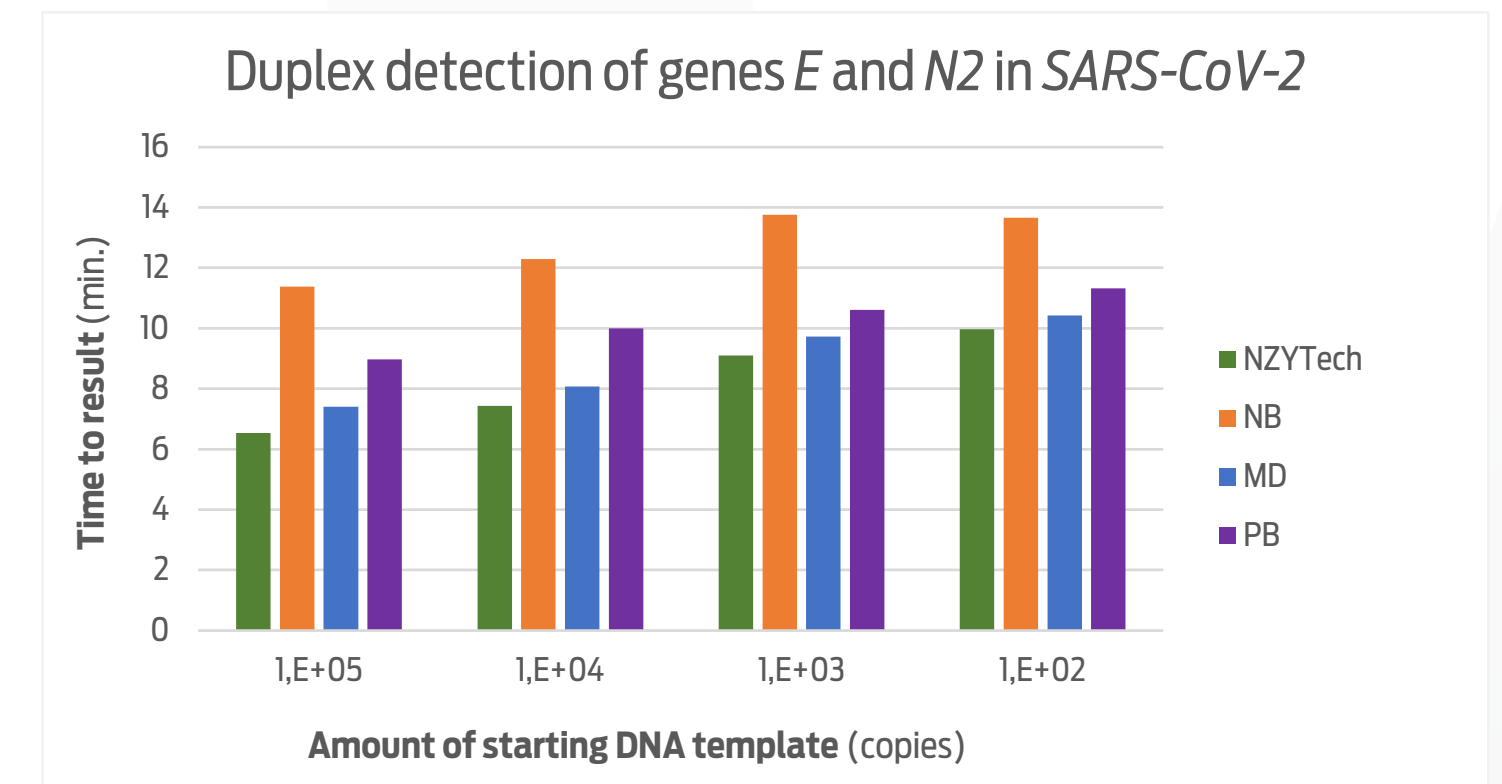
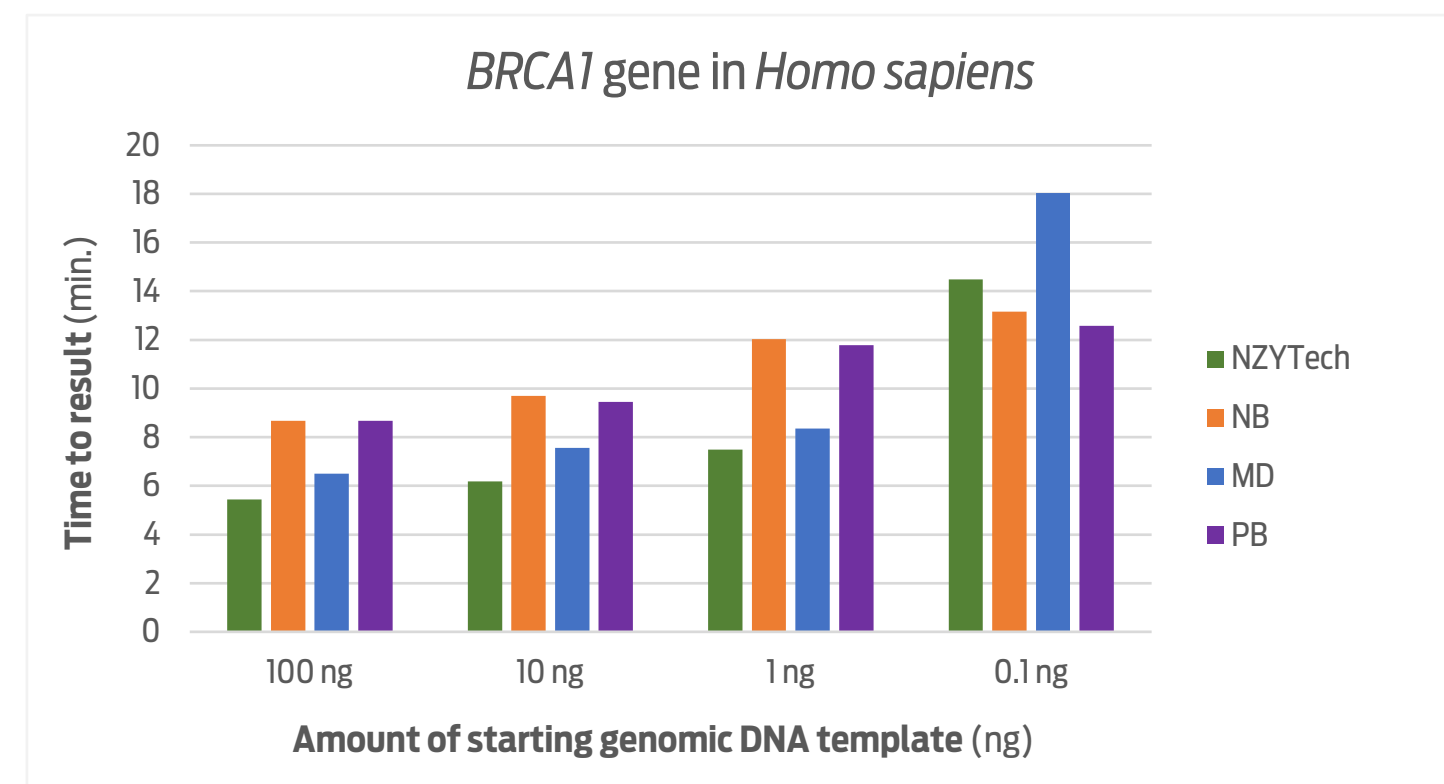
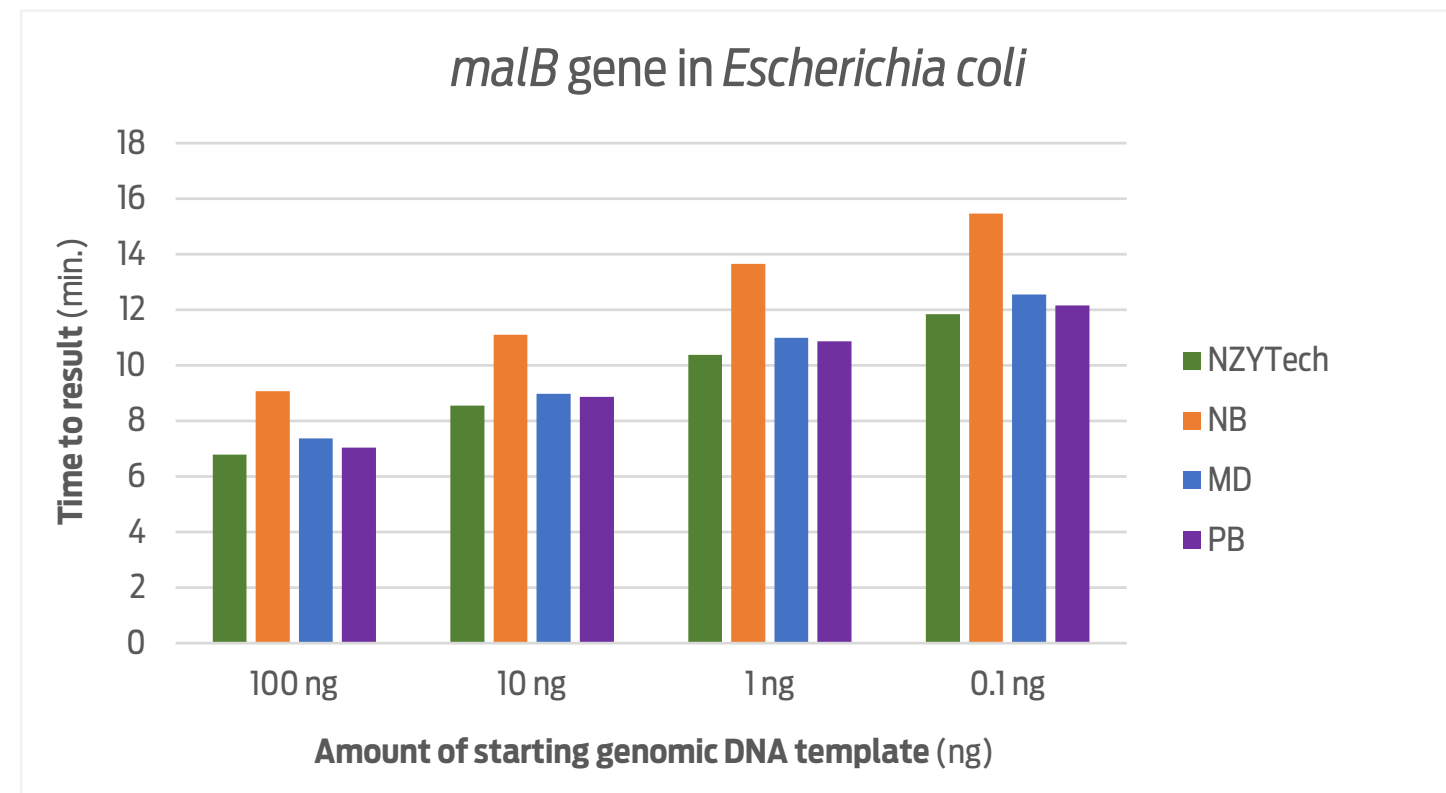
Amplification across multiple concentrations of template DNA (ranging between 10^7 and 10^3 copies).



Benchmark

Faster times-to-result for different targets

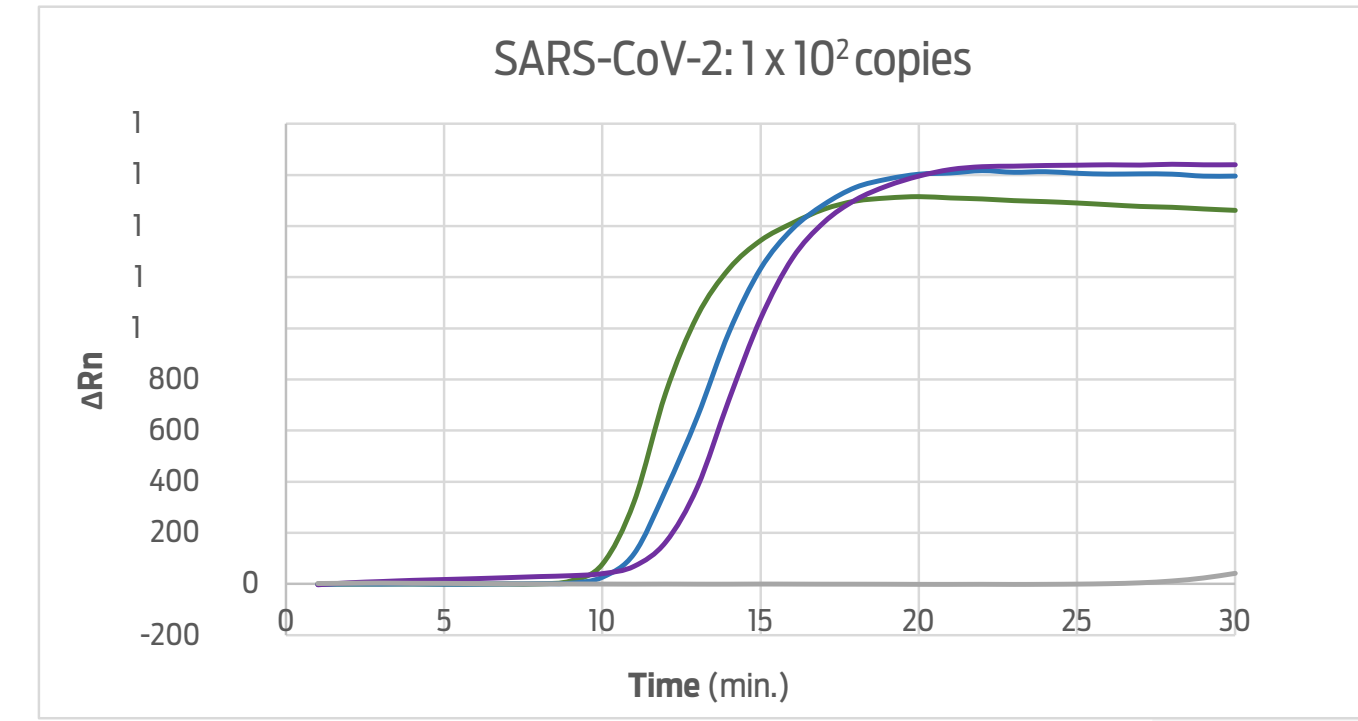
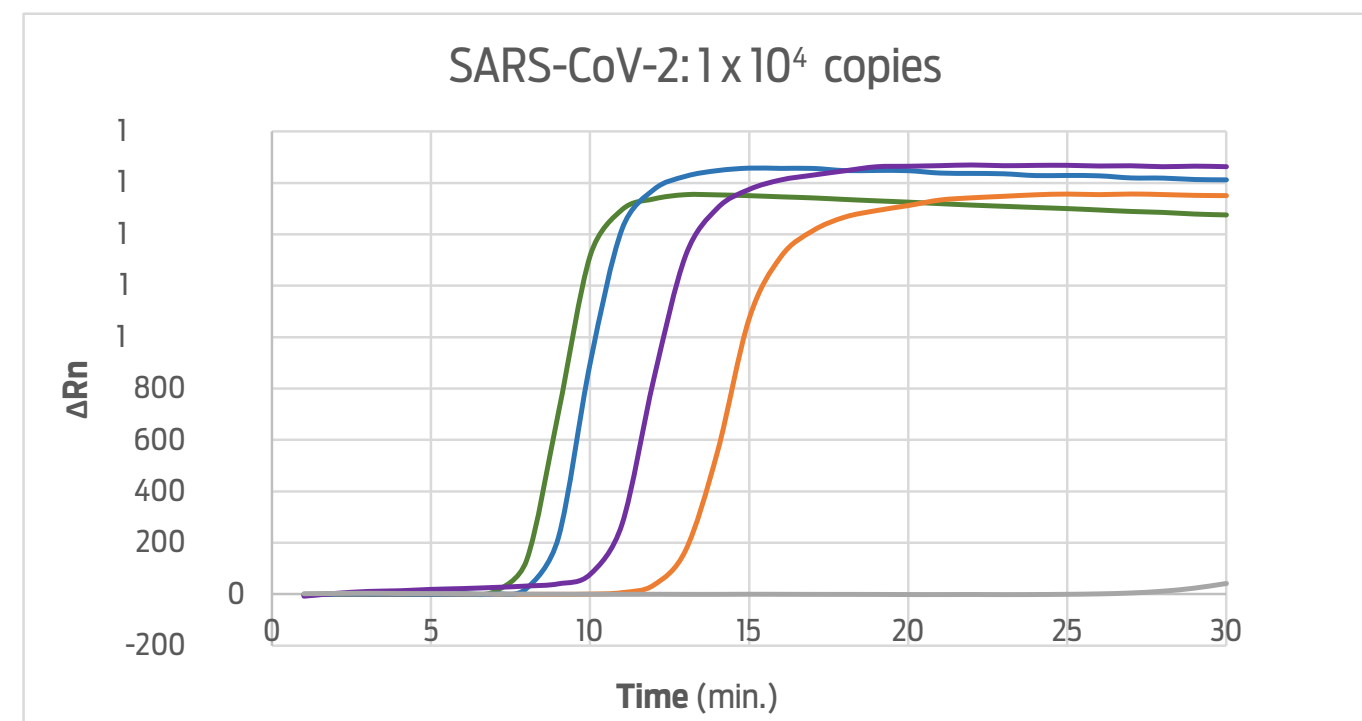
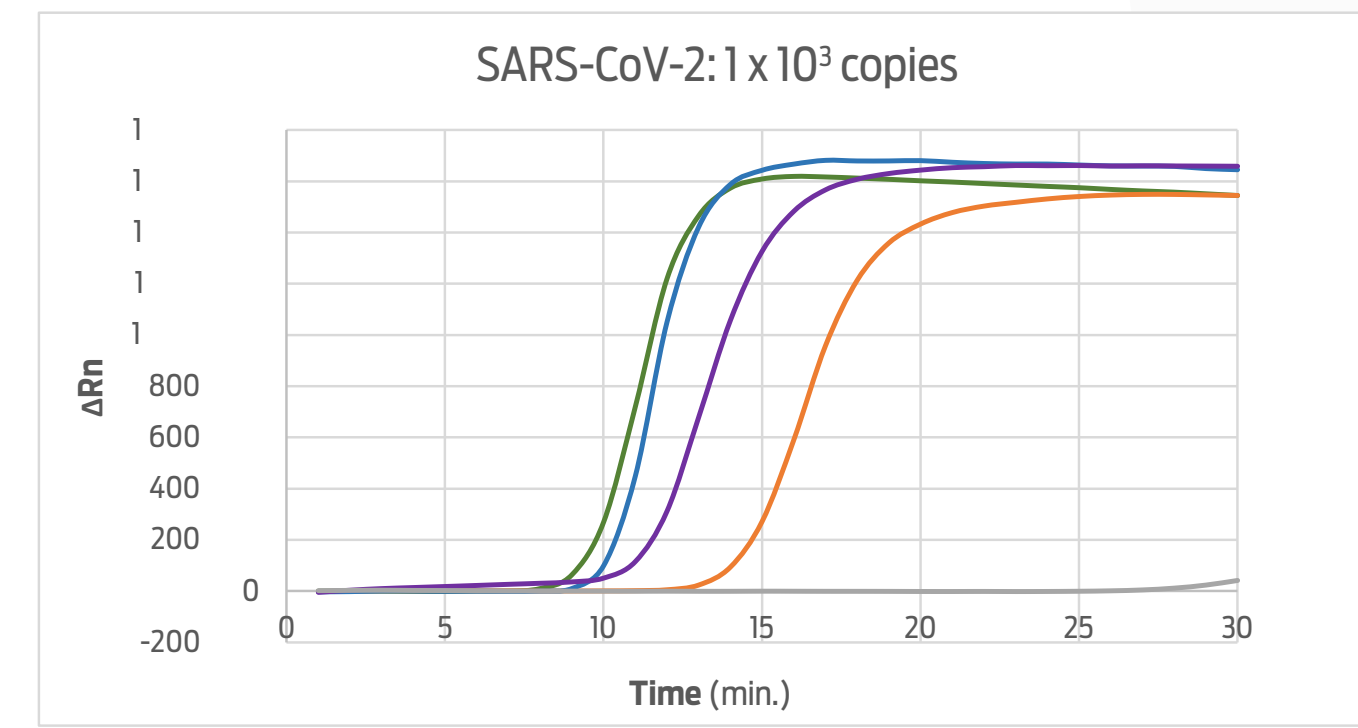
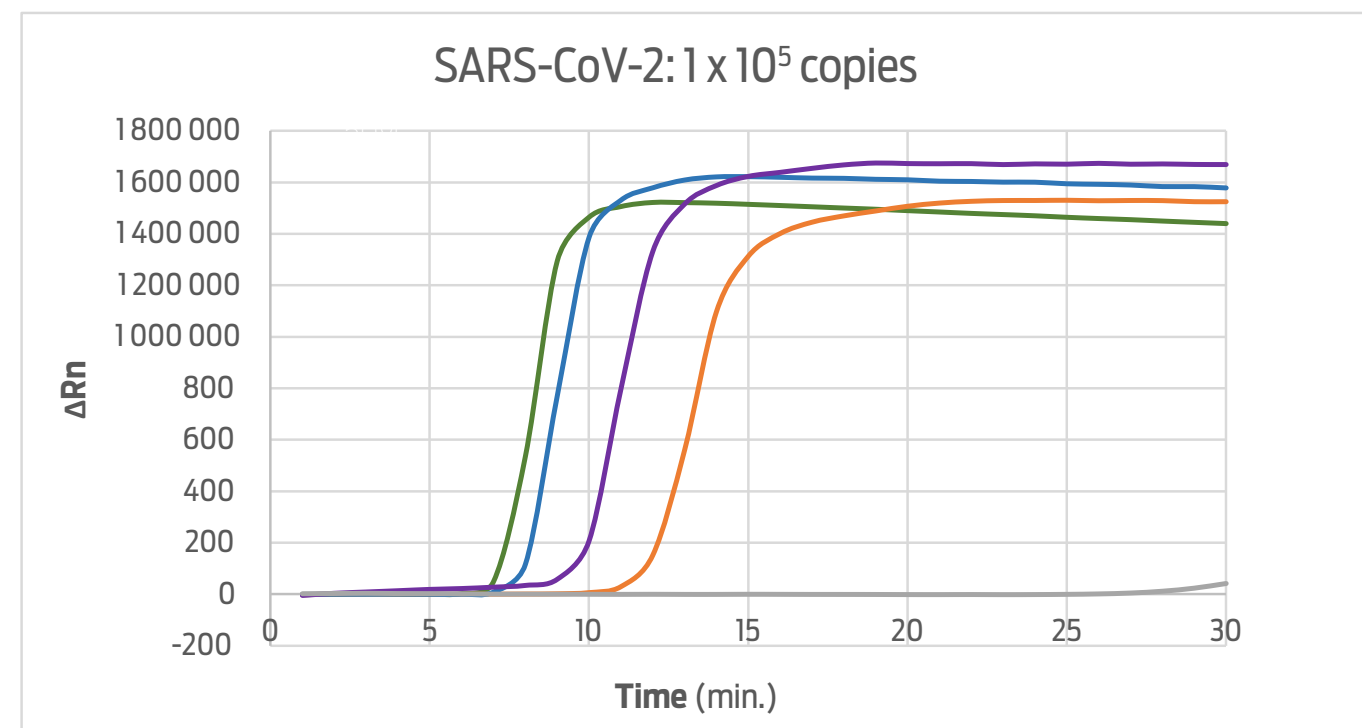
Benchmark comparison with 3 market-leading brands shows faster time-to-results from NZYTech's Bst DNA Polymerase.



Benchmark

Faster time-to-result in two SARS-CoV-2 gene detection

Faster times-to-result when compared with 3 major competitors in the market even when simultaneously detecting two SARS-CoV-2 genes at multiple starting concentrations of template DNA.



- NZYtech
- NB
- MD
- PB
- NTC

NZY Bst DNA polymerase

NZY Bst DNA polymerase belongs to a new generation of *Geobacillus stearothermophilus* (formerly known as *Bacillus stearothermophilus*) DNA polymerases optimized for standard Loop-mediated isothermal amplification (LAMP) applications. NZY Bst DNA polymerase displays 5' → 3' DNA polymerase activity together with a strong strand displacement activity and thus lacks 5' → 3' exonuclease activity. The enzyme was engineered to produce robust LAMP amplifications in short running times, under minimal optimization conditions. NZY Bst DNA polymerase was optimized to provide higher sensitivity, allowing amplification of different DNA fragments from low copy number templates. NZY Bst DNA polymerase is also suitable for nucleic acid amplification methods requiring strand displacement activity, such as whole genome amplification (WGA) and Multiple displacement amplification (MDA).

Applications

- Loop-mediated isothermal amplification (LAMP) applications
- Whole genome amplification (WGA)
- Multiple displacement amplification (MDA)

| Catalogue number | Product name | Number of reactions | Price |
|------------------|------------------------|---------------------|----------|
| MB44401 | NZY Bst DNA Polymerase | 200 µL | 65,00 € |
| MB44402 | NZY Bst DNA Polymerase | 3 x 200 µL | 164,00 € |

NZY Bst DNA polymerase
MB444

