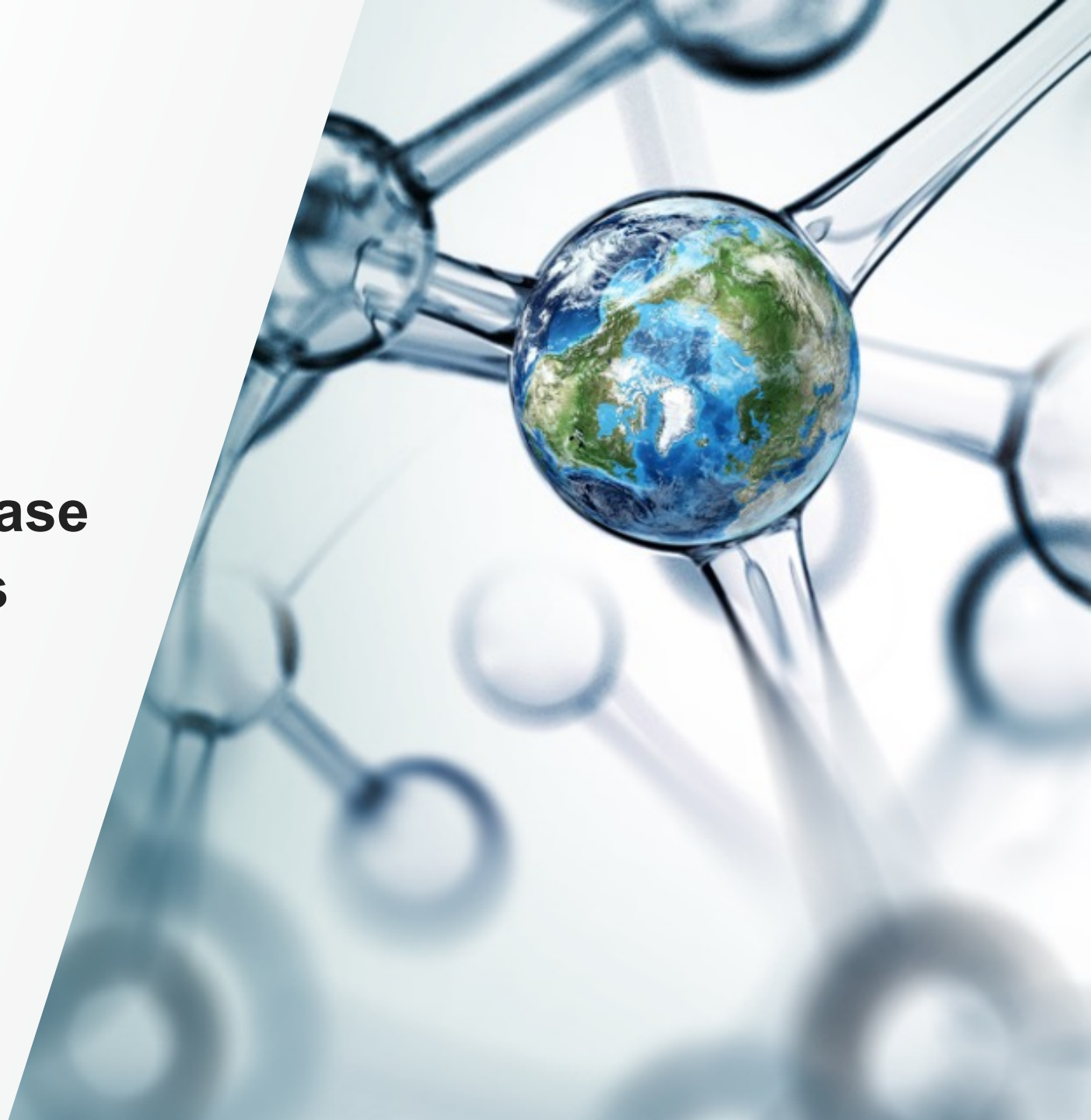
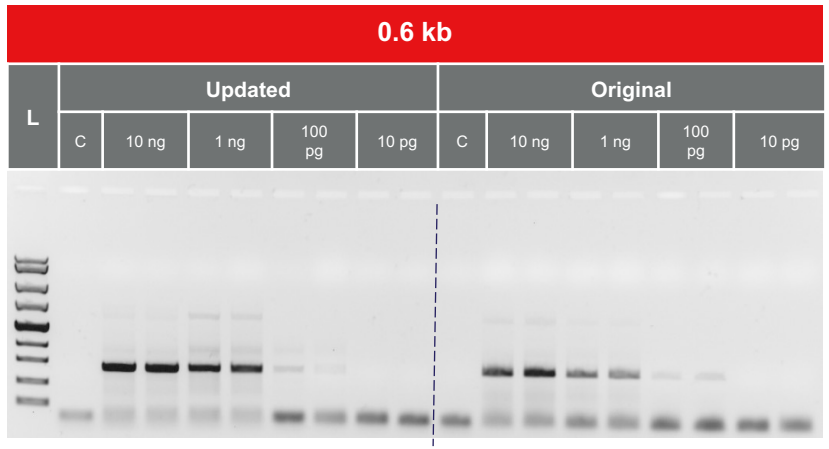
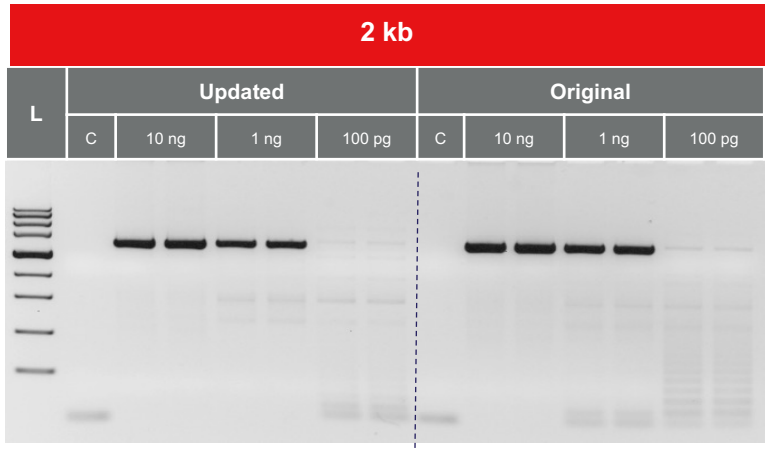
Comparison of updated and original Phusion DNA Polymerase formulations and master mixes

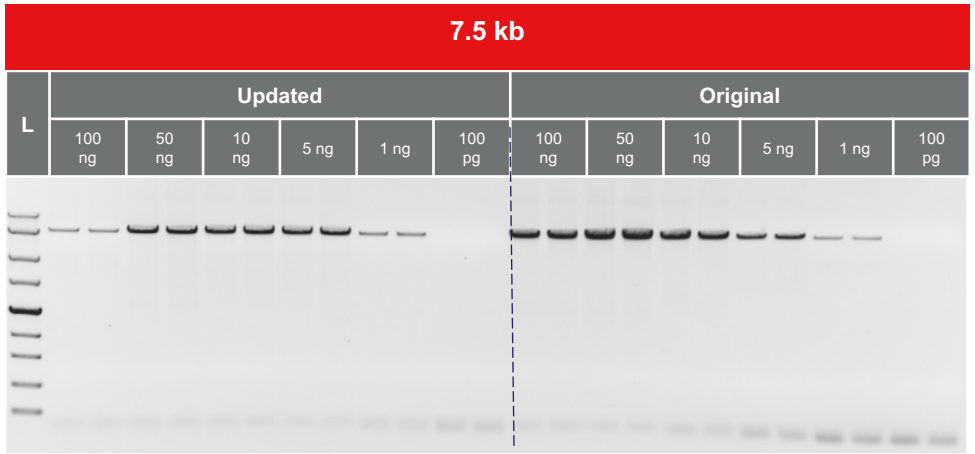


The world leader in serving science

Sensitivity of new and original Phusion High-Fidelity DNA Polymerase formulations







Original formulation

Thermo Scientific™ Phusion™ High-Fidelity DNA Polymerase with Triton™ X-100 detergent

Updated formulation

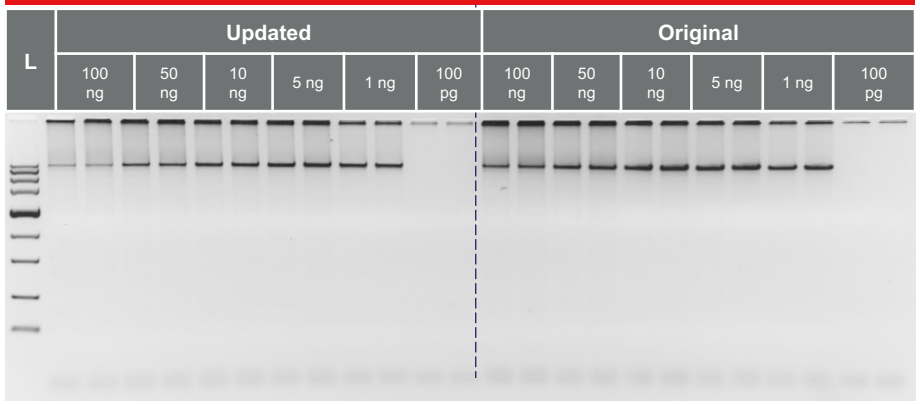
Thermo Scientific™ Phusion™ High-Fidelity DNA Polymerase with a different detergent

Sensitivity of original and updated Phusion High-Fidelity DNA Polymerase formulations. Sensitivity analysis was performed with 10 pg to 100 ng human genomic DNA. Targets ranging from 0.6 kb to 7.5 kb in length were amplified using the original and updated Phusion High-Fidelity DNA Polymerase formulations.

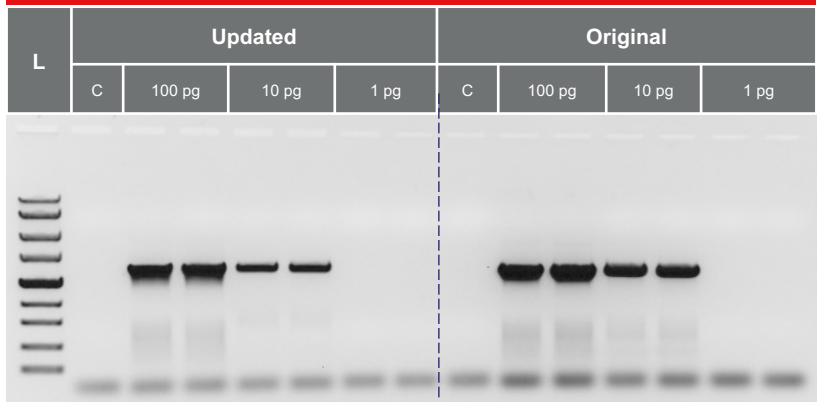
The sensitivity of the new Phusion High-Fidelity DNA Polymerase formulation was equal to that of original Phusion High-Fidelity DNA Polymerase.

Sensitivity of new and original Phusion High-Fidelity DNA Polymerase formulations

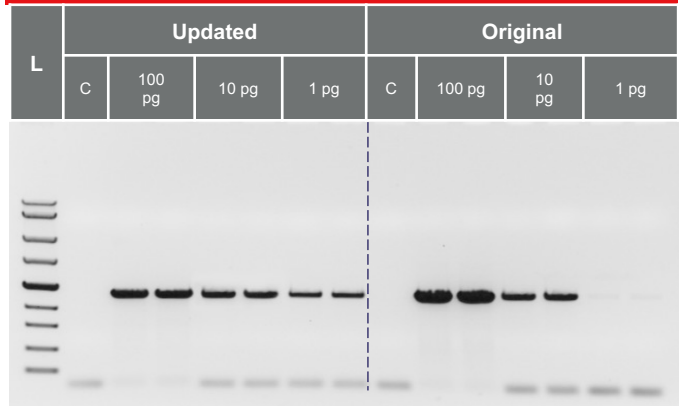
20 kb λ DNA



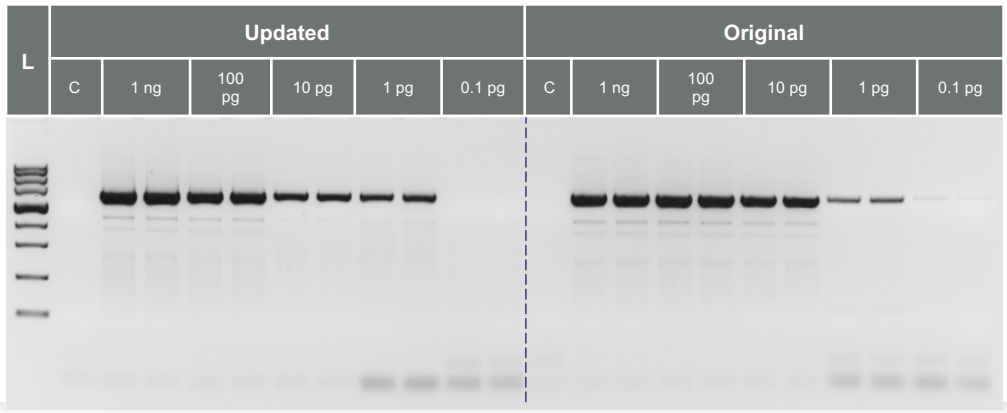
1.9 kb λ DNA



1.3 kb λ DNA



2 kb pUC19



Sensitivity of original and updated Phusion High-Fidelity DNA Polymerase formulations. Sensitivity analysis was performed with 0.1 pg to 100 ng pUC19 DNA or λ DNA. Targets ranging from 1.3 kb to 20 kb in length were amplified using the original and updated Phusion High-Fidelity DNA Polymerase formulations.

Original formulation

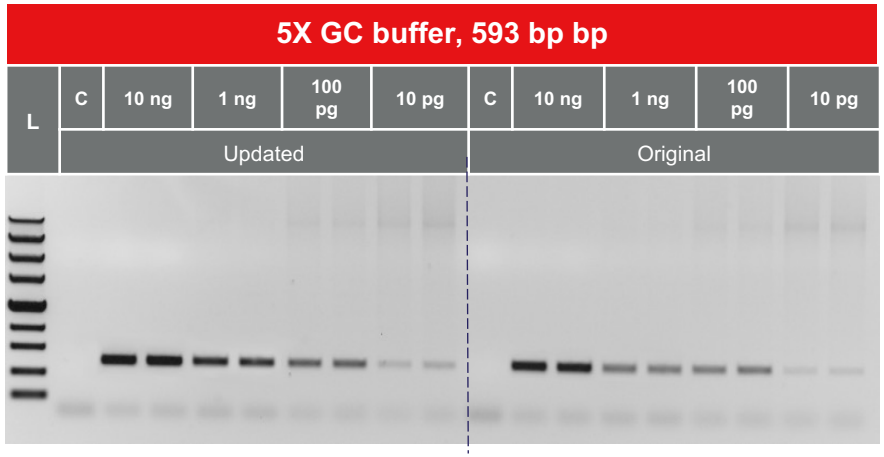
Phusion High-Fidelity DNA Polymerase with Triton X-100 detergent

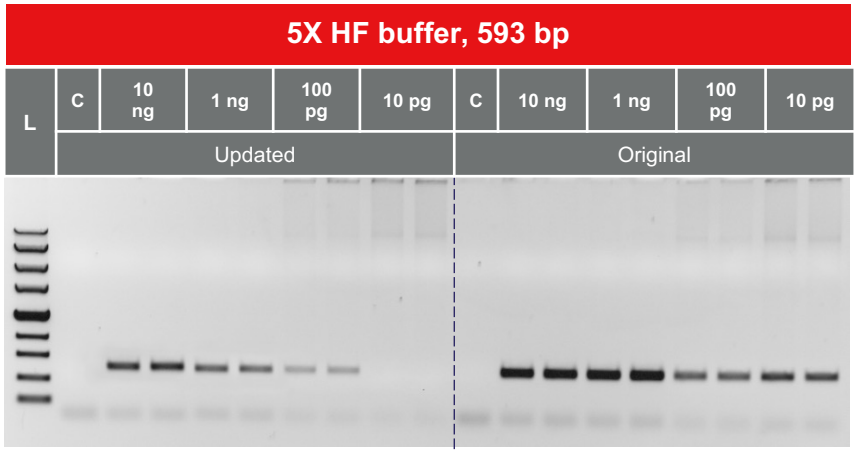
Updated formulation

Phusion High-Fidelity DNA Polymerase with a different detergent

The sensitivity of the new Phusion High-Fidelity DNA Polymerase formulation was equal to that of original Phusion High-Fidelity DNA Polymerase.

Sensitivity of new and original Phusion Hot Start II DNA Polymerase formulations





Original formulation

Thermo Scientific™ Phusion™ Hot Start II DNA Polymerase with Triton X-100 detergent

Updated formulation

Phusion Hot Start II DNA Polymerase with a different detergent

Sensitivity of original and updated Phusion Hot Start II DNA Polymerase formulations. Sensitivity analysis was performed with 10 pg to 10 ng human genomic DNA. The targets were amplified using the original and updated Phusion Hot Start II DNA Polymerase formulations with either HF or GC buffer.

The sensitivity of the updated Phusion Hot Start II DNA Polymerase formulation was equal to that of original Phusion Hot Start II DNA Polymerase.

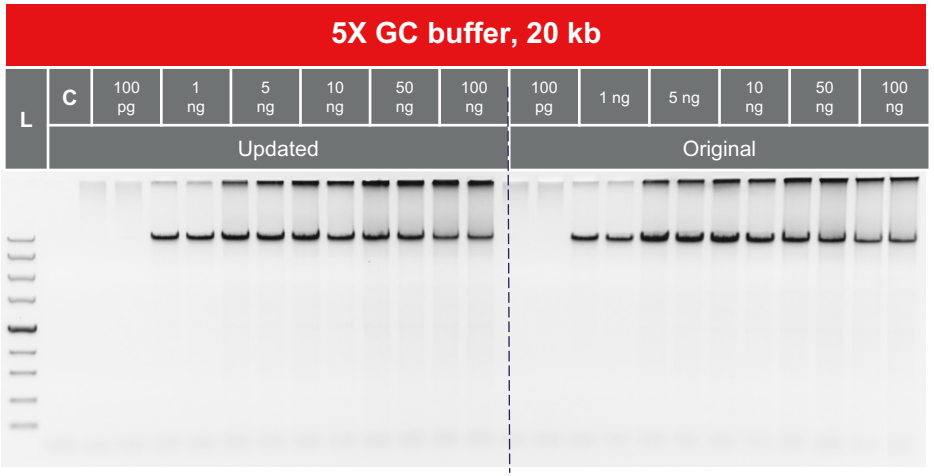
Sensitivity of new and original Phusion Hot Start II DNA Polymerase formulations

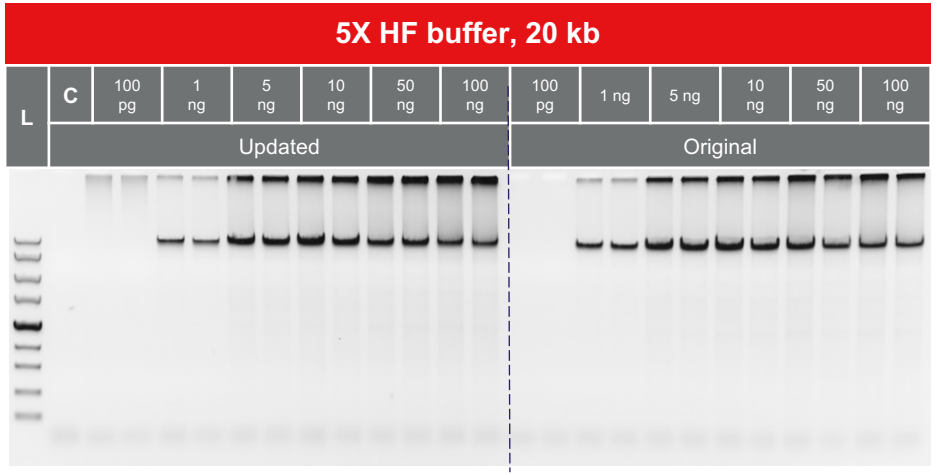
Original formulation

Phusion Hot Start II DNA Polymerase with Triton X-100 detergent

Updated formulation

Phusion Hot Start II DNA Polymerase with a different detergent

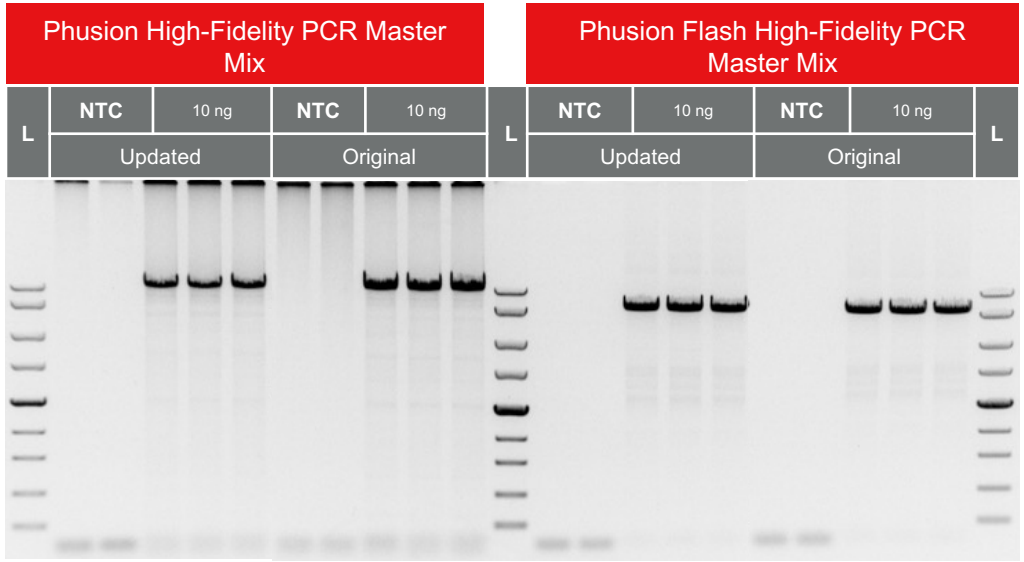




Sensitivity of original and updated Phusion Hot Start II DNA Polymerase formulations. Sensitivity analysis was performed with 0.1 pg to 100 ng lambda DNA. Targets of varying length were amplified using the original and updated Phusion Hot Start II DNA Polymerase formulations with either HF or GC buffer.

The sensitivity of the updated Phusion Hot Start II DNA Polymerase formulation was equal to that of original Phusion Hot Start II DNA Polymerase.

Performance of new and original Phusion master mixes



Performance of original and updated Phusion High-Fidelity PCR Master Mix and Phusion Flash High-Fidelity PCR Master Mix. Fragments of lambda DNA, 10 ng each and 20 kb in length, were amplified using Phusion High-Fidelity PCR Master Mixes. Fragments of human genomic DNA 10 ng each and 7.5 kb in length were amplified using Phusion Flash High-Fidelity PCR Master Mixes.

Original formulation

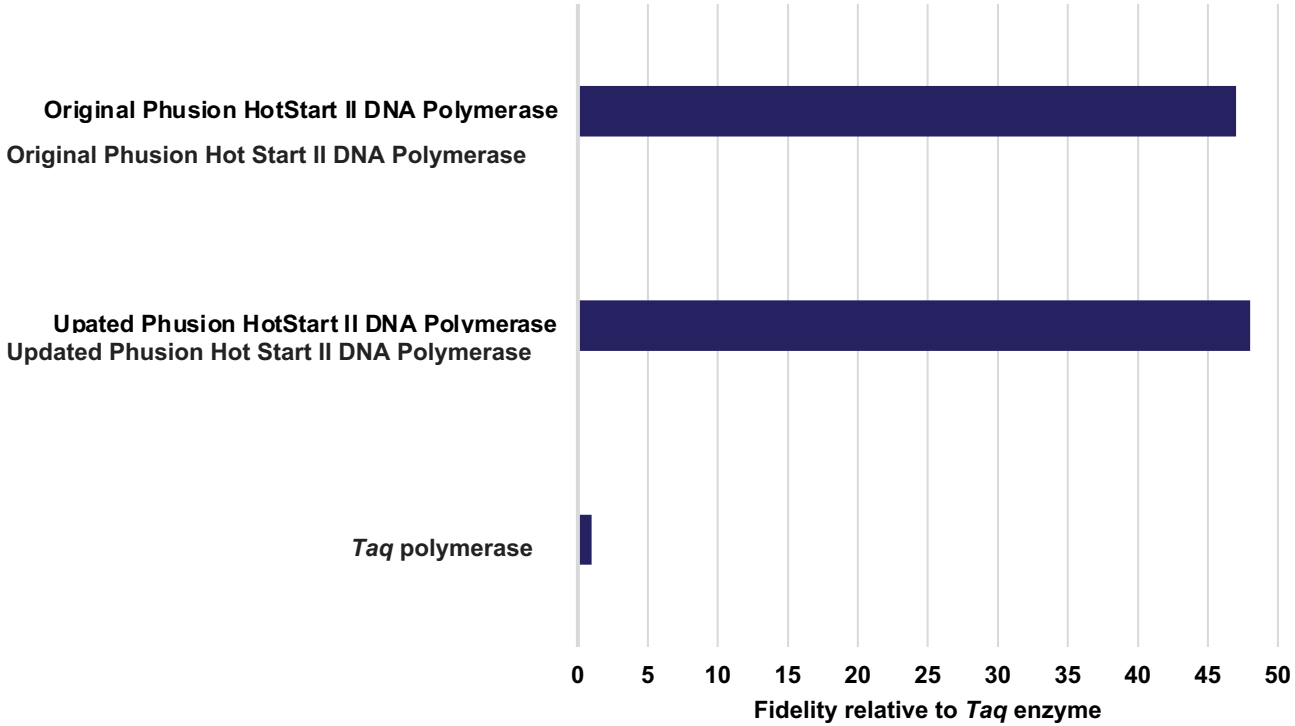
Thermo Scientific™ Phusion™ High-Fidelity PCR Master Mix and Phusion Flash High-Fidelity PCR Master Mix with Triton X-100 detergent

Updated formulation

Thermo Scientific™ Phusion™ High-Fidelity PCR Master Mix and Phusion Flash High-Fidelity PCR Master Mix with a different detergent

Updated Phusion High-Fidelity PCR Master Mix and Phusion Flash High-Fidelity PCR Master Mix are functionally equivalent to the original formulations.

Fidelity of new and original Phusion Hot Start II DNA Polymerase formulations



Fidelity of original and updated Phusion Hot Start II DNA Polymerase formulations. Polymerase fidelity was evaluated by next-generation sequencing and normalized to the fidelity of *Taq* polymerase.

The fidelity of updated Phusion Hot Start II DNA Polymerase is as high as that of original Phusion Hot Start II DNA Polymerase, and it is >45 times higher than the fidelity of *Taq* polymerase.

Thank you