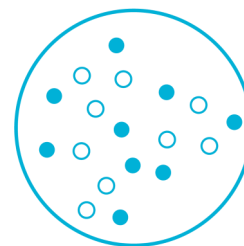


TruFi™ II Ultra 2x PCR Mix



Precision and Versatility in Ultra-High Fidelity PCR

TruFi™ II Ultra 2x PCR Mix is an optimized 2x master-mix comprised of TruFi™ II DNA Polymerase, optimized reaction buffer, MgCl₂, and ultra-pure dNTPs.

TruFi™ II Ultra 2x PCR Mix is ideal for fast cycling, as the polymerase exhibits a rapid elongation rate of 10 seconds per kb. The ready-to-use 2x mix is also highly efficient in long PCR with amplicons greater than 15 kb. With an error rate which is greater than 65x lower than *Taq* Polymerase, TruFi™ II Ultra 2x PCR Mix is recommended for applications which require extremely high fidelity such as cloning, NGS applications, and mutagenesis. To enable convenience in most PCR applications and direct-to-gel analysis following amplification, we also offer TruFi™ II Ultra 2x PCR Red Mix, a 2x master-mix version which includes an inert red gel-loading dye for direct-to-gel analysis. The red gel loading and tracking dye simplifies downstream gel analysis by allowing samples to be loaded directly in agarose gel wells. The red dye front migrates at the rate of 1000 bp - 2000 bp DNA fragments in 0.5% to 1.5% agarose gels.

Applications

- Cloning
- Crude Sample PCR
- Mutagenesis
- NGS Applications
- Next-Generation Re-Sequencing
- Protein Expression
- Long PCR > 15 kb

Ultra High-Fidelity

TruFi™ II Ultra 2x PCR Mix exhibits fidelity that is >65x higher than *Taq* Polymerase and exhibits both 5'→3' DNA polymerase activity and 3'→5' proofreading exonuclease activity

Robust Amplification

TruFi™ II Ultra 2x PCR Mix provides greater yields with less optimization than other 2x master-mixes, even in amplification of GC-rich targets, DNA of sub-optimal purity, and long templates. TruFi™ II Ultra 2x PCR Mix has a high elongation rate of 10 sec/kb, which is 4x faster than *Taq*

Convenience of Minimal Optimization

Available in 2x ready-to-use colorless and red master-mix format for direct gel-loading and high-throughput

	Fidelity (x <i>Taq</i>)	Error Rate
<i>Taq</i> Polymerase	1x	5 x 10 ⁻⁴
Pfu DNA Polymerase	5x	1.1 x 10 ⁻⁴
TruFi™ II DNA Polymerase	65x	Below detection limit*
Phusion® DNA Polymerase	65x	Below detection limit*
Q5® DNA Polymerase	65x	Below detection limit*

Fig 1. *Fidelity values of TruFi™ II DNA Polymerase, Pfu DNA Polymerase and *Taq* DNA Polymerase were measured using a novel NGS-based method. Due to statistical limitations of the method, it was not possible to determine values which are more than 65-fold the fidelity of *Taq*.

Products	Pack Size	Catalog No.
TruFi™ II Ultra 2x PCR Mix	100 Reactions / 2 x 1.25 mL	AZ-1920
TruFi™ II Ultra 2x PCR Mix	500 Reactions / 10 x 1.25 mL	AZ-1921
TruFi™ II Ultra 2x PCR Mix	1,000 Reactions / 20 x 1.25 mL	AZ-1922
TruFi™ II Ultra 2x PCR Red Mix	100 Reactions / 2 x 1.25 mL	AZ-1930
TruFi™ II Ultra 2x PCR Red Mix	500 Reactions / 10 x 1.25 mL	AZ-1931
TruFi™ II Ultra 2x PCR Red Mix	1,000 Reactions / 20 x 1.25 mL	AZ-1932