# TruFi™ II DNA Polymerase

## Precision and Versatility in Ultra-High Fidelity PCR

TruFi<sup>™</sup> II DNA Polymerase is an ultra-high fidelity proofreading DNA polymerase exhibiting both 5'→ 3' DNA polymerase activity and 3'→ 5' proofreading exonuclease activity, enabling the correction of mismatches during the amplification process. The DNA binding domain of this polymerase ensures robust amplification and more reliable results with a broad range of amplicons (from high AT to high GC). In addition, TruFi<sup>™</sup> II DNA Polymerase possesses a rapid elongation rate of 10 seconds per kb, and is 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<sup>™</sup> II DNA Polymerase is recommended for applications which require extremely high fidelity such as cloning, NGS applications, and mutagenesis.

	М	2 kb	3 kb	6 kb	8.5 kb	11 kb	17.5 kb	Μ
12 kb 8.0 kb 6.0 kb 5.0 kb 4.0 kb		,		_		1		
3.0 kb 2.5 kb 2.0 kb	=	_	-					=
1.5 kb 1.0 kb 0.8 kb 0.6 kb 0.4 kb	-							=

#### **Fig 1. Efficient PCR Amplification of a broad range of long and complex DNA targets.** Six different targets of human genomic DNA ranging from 2 kb up to 17.5 kb were successfully amplified with TRuFi™ II DNA Polymerase.

### Applications

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

#### Ultra High-Fidelity

This polymerase has a fidelity that is >65x higher than *Taq* Polymerase and exhibits both  $5' \rightarrow 3'$  DNA polymerase activity and  $3' \rightarrow 5'$  proofreading exonuclease activity.

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#### **Robust Amplification**

TruFi<sup>™</sup> II Polymerase provides greater yields with lower enzyme amounts than other DNA polymerases, even in amplification of GC-rich targets, DNA of sub-optimal purity, and long templates. TruFi<sup>™</sup> II Polymerase has a high elongation rate of 10 sec/kb, which is 4x faster than *Taq* 

#### **Convenience of Minimal Optimization**

TruFi<sup>™</sup> II DNA Polymerase is supplied with a convenient 5x reaction buffer including an optimal level of MgCl<sub>2</sub>. The polymerase is also available in a colorless and red 2x master-mix format for direct gel-loading

Products	Pack Size	Catalog No.	
TruFi™ II DNA Polymerase	200 U (2U/µL)	AZ-1720	
TruFi™ II DNA Polymerase	1,000 U (2U/µL)	AZ-1750	

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