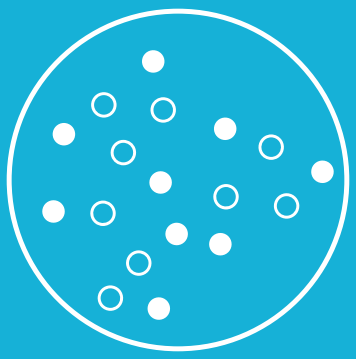

Cloning

azura genomics™
Empowering Discovery

TruFi™ DNA Polymerase

azura genomics™
Empowering Discovery

TruFi™ DNA Polymerase is a new generation, ultra high-fidelity DNA polymerase developed specifically to overcome the many disadvantages of conventional proof-reading enzymes such as poor sensitivity, significant inhibition in crude PCR assays, long extension times and the tedious optimization of buffer conditions and reaction parameters.

TruFi™ DNA Polymerase exhibits robust 5–3' DNA polymerase activity and 3'– 5' proof-reading exonuclease activity with an error-rate of 4.55 x 10^{-7}. Several point mutations have selectively modified specific amino acid residues in order to improve protein solubility and performance across a wide range of ionic conditions. TruFi™ DNA Polymerase is provided with a companion 5x reaction buffer delivering superior performance with minimal optimization across a broad range of DNA amplicons, regardless of high AT or GC content. In addition, the hydrophilic nature of TruFi™ provides for significant improvements to reaction processivity for faster cycling, greater sensitivity and less inhibition with crude DNA samples.

Applications

High-fidelity PCR for cloning, crude sample PCR, mutagenesis, next-generation re-sequencing, protein expression, microarray, and long PCR up to 10kb.

Ultra High-Fidelity

>50-fold higher fidelity than wild-type Taq Polymerase

Robust Amplification

Provides greater yields with lower enzyme amounts than other DNA polymerases, even in crude PCR reactions with known inhibitors.

Convenience of Minimal Optimization

Two-component presentation for ease of use and greater reproducibility - TruFi™ DNA Polymerase is provided with a complete 5X reaction buffer inclusive of GC enhancers, optimal levels of dNTP and $MgCl_2$, and a high ionic strength for broad compatibility with amplicon size and complexity.

Relative Fidelity

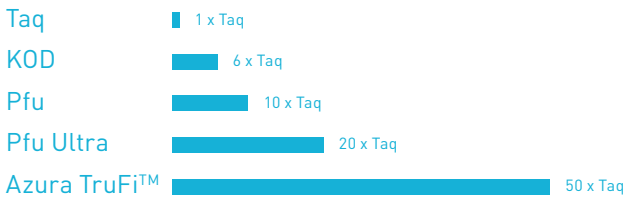

Fig 1.

Extremely High Fidelity for Exacting Applications. Relative fidelity values (error rates) of various DNA polymerases were measured by a rspL-method. Azura TruFi™ DNA Polymerase has an error-rate which is approximately 50-fold lower than that of Taq polymerase and 5-fold lower than that of Pfu polymerase. Due to the low frequency of nucleotide misincorporations, the error-rate of ultra high-fidelity enzyme TruFi™ is difficult to measure in comparative assays with wild-type Taq polymerase. Nonetheless, we report a conservative value of 50x although empirical results indicate a value greater than 100x. The error-rates of DNA polymerases are variable and dependant on several factors such as number of PCR cycles, $MgCl_2$, dNTP concentration, and amplicon complexity.

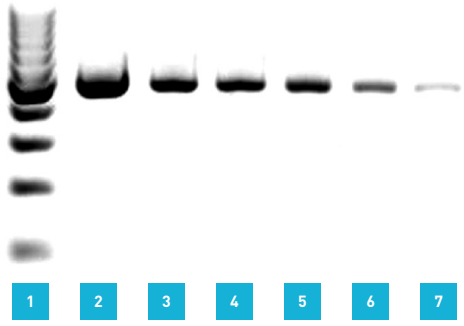

Fig 2.

- Azura TruFi™ DNA Polymerase provides exceptional PCR sensitivity and robust performance even in the presence of known inhibitors. PCR amplification of a 514-bp chloroplast DNA fragment derived from a crude lysate of oak leaves known to contain high concentrations of phenolic compounds (30 cycles, 30 second extensions at 72 °C).
- Lane 1 – 100bp MW Marker
- Lanes 2 through 7 – 20µl, 10µl, 7.5µl, 5µl, 3µl and 2µl crude plant lysate (respectively) in a 50µl total PCR reaction with 2 units Azura TruFi™ Polymerase.

Products	Pack Size	Catalog No.	Price
TruFi™ DNA Polymerase	200u (2u/µl)	AZ-1702	$115
TruFi™ DNA Polymerase	1000u (2u/µl)	AZ-1710	$435

Email: info@azuragenomics.com | Orders: sales@azuragenomics.com | Toll Free: 888-333-3895

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