TruFidelis Core PCR Master Mix with HF Buffer

FB02009010 100 Reactions
FB02009050 500 Reactions
Store at -25°C to -15°C

TruFidelis Core DNA Polymerase is a high-fidelity, proofreading DNA polymerase combining a novel enzyme with a processivity-enhancing domain. It offers high performance for all major PCR applications. It generates long amplicons with accuracy and speed, even on challenging templates. The high fidelity makes the TruFidelis Core DNA Polymerase a superior choice for cloning.

- > 50X fidelity compared to Taq polymerase.
- 5′→3′ DNA polymerase activity.
- 3′→5′ exonuclease activity.
- Generates blunt-end products.
- Amplifies long amplicons such as 7.5 kb genomic and 20 kb λ DNA.

Kit Contents

Reagents	100 Reactions	500 Reactions	Description
2X TruFidelis Core Master Mix with HF Buffer	2 x 1.25 mL	10 x 1.25 mL	Provides 1.5 mM $MgCl_2$ at 1X concentration
DMSO	500 µL	2 x 500 µL	Recommended for GC-rich amplicons. DMSO is not recommended for amplicons with very low GC% or amplicons that are > 20 kb.

PCR Reaction Setup:

For multiple reactions, prepare a master mix of components common to all reactions to minimize pipetting error, then dispense appropriate volumes into individual PCR tube before adding template DNA.

Component	20µL Reaction	50µL Reaction	Final Concentration
Water, nuclease-free	to 20 µL	to 50 µL	-
2X TruFidelis Core Master Mix with HF Buffer	10 µL	25 µL	1X
Forward Primer	varies	varies	0.5 µM*
Reverse Primer	varies	varies	0.5 µM*
Template DNA	varies	varies	50-250 ng (gDNA) or 1 pg-10 ng (plasmid DNA) per 50 µL reaction
DMSO, optional	0.6 µL	1.5 µL	3%

*The recommendation for final primer concentration is 0.5 µM, but it can be varied in a range of 0.2-1.0 µM, if needed.

Thermal Cycling Conditions on Thermal Cycler:

Step		2-step protocol (for primers with Tm values ⩾ 69°C)		3-step protocol	
		Temp.	Time	Temp.	Time
Initial denaturation		98°C	30 sec	98°C	30 sec
25-35 PCR cycles	Denature	98°C	5-10 sec	98°C	5-10 sec
	Anneal	72°C	15-30 sec/kb	varies	10-30 sec
	Extend			72°C	15-30 sec/kb
Final extension		72°C	5-10 min	72°C	5-10 min
		4°C	hold	4°C	hold

Use your PCR product immediately in downstream applications, or store it at -20°C.