SMOBIO
Small Bio, Smart Tool

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Product Information

ExcelTaq SMO-HiFi DNA Polymerase

TF1000	**100 units**	
	SMO-HiFi DNA Polymerase	100 µl
	10X Reaction Buffer	600 µl
	25 mM $MgSO_4$	500 µl
	dNTPs Mix (2 mM each)	600 µl
	DMSO	600 µl

Storage

-20°C ≥ 24 months

Description

The ExcelTaq SMO-HiFi DNA Polymerase is a new, recombinant DNA polymerase with high elongation rate and with 70 times higher fidelity during amplification than *Taq* DNA polymerase. Being highly thermostable, the SMO-HiFi Polymerase can remain viable even after being subjected to boiling for 2 minutes. The ExcelTaq SMO-HiFi Polymerase is also designed to operate in much lower Mg^{2+} concentration as compared to other DNA polymerase.

Features

- 5'→3' DNA polymerase activity
- 3'→5' exonuclease (proofreading) activity
- High reaction rate (up to 67 base / second)
- High fidelity, 70 times of *Taq* polymerase
- Generates blunt end amplicon
- Thermo-stable – half life is more than 10 hrs at 95°C

Applications

- Generation of blunt end PCR products (proofreading).
- For PCR cloning with GetClone™ PCR cloning vector.

Storage Buffer

20 mM Tris-HCl (pH 8.0), 50 mM KCl, 0.1 mM EDTA, 1 mM DTT, stabilizer, 50% (v/v) glycerol

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74°C.

Recommended PCR Condition

Template	1 – 150 ng
Forward primer	0.1 – 0.5 µM
Reverse primer	0.1 – 0.5 µM
10 × Reaction Buffer	5 µl
$MgSO_4$ (25 mM)	2 µl
dNTPs (2 mM each)	5 µl
SMO-HiFi DNA Polymerase	1 µl (1 unit)
DMSO	5 µl
H_2O	to 50 µl
Total volume	50 µl

Recommended PCR Program

94°C	2 min	
94°C	15 sec	25 ~ 40 cycles
50~68°C*	30 sec	
68°C	30 sec/kb	
68°C	1 min	

*Optimal PCR condition varies according to primers' thermodynamic properties.

Quality Control

Functional Testing

ExcelTaq SMO-HiFi DNA Polymerase is tested for performance in the polymerase chain reaction (PCR) using 1 unit of enzyme to amplify a 665 bp target from 1 pg of tested plasmid DNA. The resulting PCR product is visualized as a single band on an ethidium bromide-stained agarose gel.

Nuclease Assay

No contaminating endonuclease or exonuclease activity was detected using pUC19 incubated with ExcelTaq SMO-HiFi DNA Polymerase for 4 hours at 37°C.

Residual Nucleotides Assay

No contaminating residual nucleotides were detected from purified ExcelTaq SMO-HiFi DNA Polymerase by PCR assay.

Other Information

SMOBiO, Inc. claims all warranties with respect to this document, expressed or implied, including but not limited to those of merchantability or fitness for a particular purpose. In no event shall SMOBiO, Inc. be liable, whether in contract, tort, warranty, or under any statute or any other basis for special, incidental, indirect, punitive, multiple or consequential damages in connection with or arising from this document, including but not limited to the use thereof.

Caution: Not intended for human or animal diagnostic or therapeutic uses.

Related Products

DM1100	ExcelBand 50 bp DNA Ladder, 500 µl
DM2100	ExcelBand 100 bp DNA Ladder, 500 µl
DM2300	ExcelBand 100 bp+3K DNA Ladder, 500 µl
DM3100	ExcelBand 1 KB (0.25-10 kb) DNA Ladder, 500 µl
DM3200	ExcelBand 1 KB Plus (0.1-10 kb) DNA Ladder, 500 µl
DM4100	ExcelBand XL 25 kb DNA Ladder, Broad Range (up to 25 kb), 500 µl
DL5000	FluoroDye DNA Fluorescent Loading Dye (Green, 6×), 1 ml
DS1000	FluoroStain DNA Fluorescent Staining Dye (Green, 10,000×), 500 µl
TP1000	ExcelTaq DNA Polymerase, 5 U/ µl, 500 U × 1
TP1100	ExcelTaq 5× PCR Master Mix, 200 RXN
TP1200	ExcelTaq 5× PCR Master Dye Mix, 200 RXN
TP1260	ExcelTaq 5× Fluorescent PCR Master Mix, 200 RXN
TP2000	ExcelTaq Blood Direct DNA Polymerase, 5 U/ µl, 500 U × 1
TP2100	ExcelTaq Blood Direct PCR Master Mix Kit, 200 RXN
VE0100	B-BOX™ Blue Light LED epi-illuminator, AC 100-240V, 50/60Hz

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For research use only

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