AccuGO™ Pfu Proofreading DNA Polymerase

Operation Manual

Cat.: C108300
Size: 100 PCR reactions
Store at -20°C upon arrival
Research Use Only

Materials supplied:

1. AccuGO™ Pfu DNA Polymerases 100U (2 units/μL) in storage buffer. (Cat.: C108301)
2. 5X AccuGO™ Reaction Buffer (1 mL/vial) provides a final 2 mM Mg^{2+} concentration in the PCR reaction. (Cat.: C108302)

I. Description:

AccuGO™ Pfu DNA polymerase is a Pfu-based DNA polymerase that specially provides both short extension time and high performance. It was designed to be applied in the replication of DNA sequences required high fidelity and high efficiency. Like Pfu, AccuGO™ also exhibits 3' → 5' exonuclease activity that provides proofreading ability and results in higher fidelity during DNA synthesis. Moreover, AccuGO™ was engineered to have better processivity than normal Pfu. Therefore, AccuGO™ can easily amplify up to 10 kb blunt-ended DNA fragments from variant templates. Even if the template's GC content is up to 70%, AccuGO™ still has good performance. In short, AccuGO™ DNA polymerase is an ideal tool for molecular cloning containing long or complicated amplicons.

II. Applications:

1. High-fidelity PCR
2. Suitable for amplifying up to 10 kb DNA fragments
3. PCR products for cloning and expression

III. Storage Condition

-20°C for 2 years

IV. Recommended PCR Condition:

DNA	Amount
Genomic DNA	10-250 ng
Plasmid DNA	1 pg -10 ng
cDNA	1 -100 ng

Component	Volume (μL)	Final conc.
AccuGO™ Pfu DNA polymerase	0.5	1U
5X AccuGO™ buffer	10	1X
dNTP Mixture (2.5 mM each)	4	0.2 mM each
10 μM forward Primer	1	0.2 μM
10 μM reverse Primer	1	0.2 μM
DNA template	Variable	
Nuclease-Free Water	to 50	
Total volume		50 μL

V. Thermocycling Conditions for a Routine PCR:

The recommended parameters may be optimized for each new primer-template pair for optimal specificity and amplification.

Cycles	Step	Temp.	Time
1	Initial denaturation	95℃	1-5 mins
25-35	Denaturation	95℃	10-30 sec
	Annealing	45-72℃	10-30 sec
	Extension	72℃	15-30 sec/kb
1	Final Extension	72℃	5-10 mins
	Hold	14℃	--

VI. Experimental Data

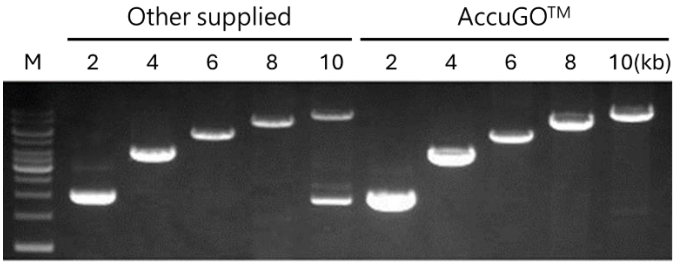

Figure 1. Comparison of the PCR amplification performance between AccuGO™ and other suppliers' Pfu DNA polymerase. (Template: λDNA 5ng)

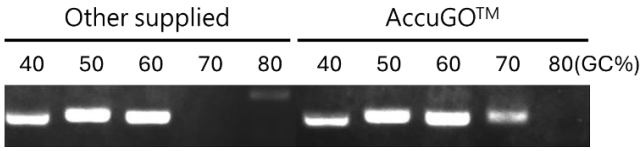

Figure 2. Comparison of the tolerance of GC content between AccuGO™ and other suppliers' Pfu DNA polymerase. (Template: λDNA 5ng)

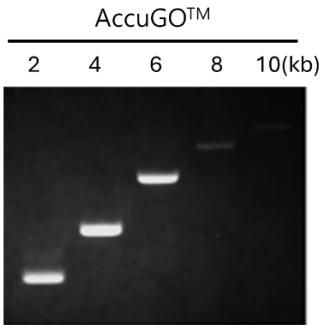

Figure 3. Comparison of amplifying the different size amplicons by AccuGO™ at an extension time of 30 sec. (Template: λDNA 5ng)

Address: (23141) 4F, No.108-3,
Minquan Rd., Hsin-Tien District,
New Taipei City, Taiwan (R.O.C)

TEL: +886-2-2218-8726
FAX: +886-2-2218-8727
E-Mail: service@bioptic.com.tw