

Golden Taq Polymerase kit

Recombinant Taq Polymerase produced in bacterial expression system (*E.coli*) + dNTPs

Concentration: 5 U/ μ l

Sizes: 250 U, 400U, 500U, 1000U, 3000U, 5000U

Storage: Stable one year at -20°C



For research use only

DESCRIPTION

The Golden Taq Polymerase, from the hemophilic bacteria *Thermus aquaticus* is a highly thermostable DNA polymerase used for standard PCR applications in order to amplify DNA sequences. The recombinant form of this enzyme expressed in bacterial expression system (*E.coli*) has a molecular weight of ~95 kDa. Reaction buffer and an MgSO₄ solution are included for possible optimizations.

REFERENCE	SIZE	TAQ POLYMERASE 5U/ μ L	REACTION BUFFER	MGSO ₄ BUFFER	DNTPS
PI-MB001-250-k	250U	50 μ L or lyophilized (For reconstitution add 50 μ l of sterile water (included))	250 μ l (10x concentrated)	200 μ l 100mM	25 μ l (10Mm)
PI-MB001-400-k	400U	80 μ L or lyophilized (For reconstitution add 80 μ l of sterile water (included))	400 μ l (10x concentrated)	320 μ l 100mM	40 μ l (10Mm)
PI-MB001-500-k	500U	100 μ l or lyophilized (For reconstitution add 100 μ l of sterile water (included))	500 μ l (10x concentrated)	400 μ l 100mM	50 μ l (10Mm)
PI-MB001-1000-k	1000U	200 μ l or lyophilized (For reconstitution add 200 μ l of sterile water (included))	1000 μ l (10x concentrated)	800 μ l 100mM	100 μ l (10Mm)

Produced and packed in France

REFERENCE	SIZE	TAQ POLYMERASE 5U/ μ L	REACTION BUFFER	MGSO ₄ BUFFER	DNTPS
PI-MB001-3000-k	3000U	3*200 μ l or lyophilized (For reconstitution add 3*200 μ l of sterile water (included))	3* 1000 μ l (10x concentrated)	3* 800 μ l 100mM	3*100 μ l (10Mm)
PI-MB001-5000-K	5000U	5*200 μ l or lyophilized (For reconstitution add 5*200 μ l of sterile water (included))	5* 1000 μ l (10x concentrated)	5* 800 μ l 100mM	5*100 μ l (10Mm)

BATCH NUMBER

Please refer to the label on each tube

UNIT DEFINITION

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into a DNA fragment in 30 minutes at 74°C

STORAGE BUFFER

Tris-HCl 20mM pH8; EDTA 0,1mM; DTT 1mM; Glycerol 50%; Tween20 0.5%; Nonidet P-40 0.5%.

REACTION BUFFER (1X)

Tris-HCl 20mM pH8.8; (NH₄)₂SO₄ 10mM; 10 mM KCl; 2mM MgSO₄; Triton X-100 0.1%.

PROTOCOL SUGGESTION

To carry out parallel reactions and avoid pipetting errors, prepare a PCR mix by mixing water, buffers, dNTPs and the Golden Taq Polymerase. The PCR mix must be produced for the number of reactions plus an additional one. Then aliquot the mix in the PCR tube and add the DNA matrix.

1. Vortex and centrifuge briefly the solutions after thawing :
2. In a sterile PCR tube mix all the reagents in the following order
(For 30 μ L reaction) :

Product	Standard	DMSO (optional)*
	Volume	
H2O Sterile Ultrapure**	s.q.f.*** 30 μ l	s.q.f. 30 μ l
Reaction Buffer 10X	3 μ l	3 μ l
dNTP (10mM each)	0,5 μ l	0,5 μ l
Forward primer (ex : 50 μ M)	0,5 μ l	0,5 μ l
Reverse primer (ex : 50 μ M)	0,5 μ l	0,5 μ l
DMSO (Option)	/	1,5 μ l
DNA matrix	10 to 200ng****	10 to 200ng
Golden Taq Polymerase	1 μ l	1 μ l

*For the matrices that have secondary structures that are hard to amplify

**Molecular biology grade or equivalent

***s.q.f.: sufficient quantity for

****10 to 100ng plasmid DNA or PCR fragment or cDNA; 100 to 200ng of gDNA

3. Vortex at low speed to mix the components, then briefly centrifuge the tube to bring the medium reaction in the bottom to the tube (if necessary).

4. If needed, add a thin layer of mineral oil on the medium reaction to avoid evaporation. (Not necessary for thermocycler equipped with a heated lid or equivalent device).
5. Places the tubes in the thermocycler and follow these conditions:

Steps	Temperature	Time	Cycle(s)
Initial denaturation	95°C	2min	1
Denaturation	92°C	1min	30
Annealing	60°C*	1min	
Extension	72°C	1min**	
Final extension	72°C	5min	1
Storage (option)	4°C	variable	1

*Adjust according the primers TM (here, example for two primers with TM 60°C)

**Adjust according the length of the DNA to synthesize (here, example for 2kb)