For research use only

ISO9001

HiPi Eco Taq DNA Polymerase

Product Description	Quantity	Cat. No.	Remarks
HiPi Eco Taq DNA Polymerase	2,500 unit	EBT-1303	5 unit/μl, 500 μl
	10,000 unit	EBT-1304	5 unit/μl, 4 x 500 μl

Description

HiPi Eco Taq DNA Polymerase is a recombinant Taq DNA polymerase from *Therrmus Aquaticus*. It is purified from an *E.coli* strain carrying a plasmid with the cloned gene encoding Taq DNA polymerase. Eco Taq DNA Polymerase is the best qualified and the most cheapest Taq in the world supplied in a bulk format. HiPi Eco Taq DNA Polymerase is recommended for use in conventional PCR like colony PCR, gDNA PCR, and RT-PCR.

Storage Buffer

5 unit/μl in 50 mM Tris-HCl, pH8.0, 50 mM KCl, 0.1 mM EDTA, 1 mM DTT, 0.1% NP-40, 0.1% Tween-20, 50% Glycerol.

Unit Definition

One unit of enzyme catalyzes the incorporation of 10 nanomoles of deoxynucleotides into a polynucleotide fraction in 30 min at 72°C.

10x Reaction Buffer

500 mM Tris-HCl, pH9.0, 160 mM $(NH_4)_2SO_4$, 25 mM $MgCl_2$, 1% Tween 20, 1 mg/ml BSA.

QC tests

Activity, SDS-PAGE purity, performance tests, genomic DNA contamination test, confirmation test for the absence of endo and exonucleases.

Storage Condition

Store at -20°C.

Standard Protocol

1. Prepare 50 μl PCR solution as follows:

PCR grade distilled water :	- μl
10x reaction buffer :	5 μl
10 mM dNTP mix (2.5 mM each) :	4 μl
Primer (10 pmol/μl) :	1 μl each
Template :	0.1-10 ng
HiPi Eco Taq :	0.2-0.5 μl (1-2.5 unit)

Adjust final vol. to 50 μl with PCR grade distilled water

*Note : Always, Taq DNA polymerase should be added last to the mixture

2. Set PCR cycling as follows :

Initial denature at 95°C : 3 min

		<1 kbp	1-3 kpb
Denature	95°C	30 sec	30 sec
Anneal	Tm-4°C	30 sec	30 sec
Extend	72°C	45 sec	30-60 sec/kbp

25-40 PCR cycles

Trouble-Shooting

1. No products
   - Confirm your template is intact : Try another reaction with a result assured primer pair and templates
   - Be sure all the component are correctly added and working well : Sometimes low graded dNTP may inhibit the reaction, and degraded primers can result in low sized PCR fragments
2. Smear bands or smeared background
   - Reduce template concentration : High concentration of template can lead to smearing of PCR products. Generally, 1-10 ng of plasmid DNA and 10-100 ng of genomic DNA are working well
   - Reduce enzyme concentration in the reaction
   - Increase annealing temperature
   - Set up a reaction mix on ice
3. Non-specific bands
   - Increase annealing temperature
   - Consider using PCR additives, like 1-2% DMSO and 0.5-1x Q buffer
   - Confirm specificity of your primers
4. Low yield
   - Increase enzyme concentration in the reaction
   - Increase PCR cycle number
   - Be sure appropriate concentration of your template is added

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