enzynomics

*n*Taq-Tenuto
(Mg^{2+} free/dye plus)

Cat.#	Size	Size
P225BD	250 units	5 units/μl
P250BD	500 units	5 units/μl

Store at -20℃

Supplied with: 10X *n*Taq-Tenuto Buffer (Mg^{2+} free/Dye plus)
dNTP Mixture (2 mM each)
GC Melt I
GC Melt II
25 mM $MgCl_2$
Sterile water

India Contact:

Life Technologies (India) Pvt. Ltd.
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Email: customerservice@lifetechindia.com
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Product description

*n*Taq-Tenuto is *n*Taq (Cat.#P025, P050) supplemented with 3'→5' proofreading activity and a PCR enhancing factor for improved efficiency and fidelity. *n*Taq-Tenuto DNA Polymerase can be used to amplify DNA longer than 10 kb, which is difficult with common Taq polymerases alone. Thus, this product is improved in both fidelity
(> 2 fold) of PCR products and amplification efficiency of longer PCR products. 10X *n*Taq-Tenuto Buffer contains 20 mM Mg^{2+} and loading dyes.

Characteristics

- Molecular weight: 94 kDa
- Error rate: 3.0 X 10^{-6}
- Thermal stability: Half life of 40 min at 95℃
- A-tail formation at 3' ends of amplified DNA products.

Applications

- Amplification of long DNA fragments (>5~15 kb)
- Amplification of high-complexity template DNA such as cDNA and genomic DNA
- Primer extension
- Colony PCR
- Multiplex PCR
- Labeling of DNA fragments with radioactive-isotopes
- Nucleotide sequencing

For Research Use Only. Not for use in diagnostic procedures.

ISO9001 ISO14001 ISO13485

Quality control

- Purity: >99% on SDS-PAGE
- Endonuclease-free
- Exonuclease-free
- RNase free
- Inhibitor-free

Unit definition

One unit is defined as the amount of enzyme required to incorporate 10 nmol of dNTP into acid insoluble materials in 30 min at 74℃ in a 50-μl reaction mixture (20 mM Tris-HCl/pH 8.8, 50 mM KCl, 2.5 mM MgCl2, 10 mM β-mercaptoethanol, 12.5 μg of calf thymus DNA).

Storage buffer

20 mM Tris-HCl (pH 7.9), 100 mM KCl, 0.1 mM EDTA, 1 mM DTT, 0.5% NP-40, 0.5% Tween-20, 50% glycerol.

10X nTaq-Tenuto Buffer (Mg^{2+} Free/Dye plus)

Mg^{2+} free buffer: Containing, 10X loading dye

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Standard PCR conditions

- PCR mixture[a]

10X *n*Taq-Tenuto Buffer (Mg^{2+} free/Dye plus)	2 μl
*n*Taq-Tenuto DNA Polymerase[b] (5 units/μl)	0.2 μl
dNTP mixture (2 mM each, final conc., 200 μM each)	2 μl
$MgCl_2$[c] (25 mM)	X μl
Template DNA[d] (0.1~500 ng/μl)	1 μl
Primer 1 (5 pmole/μl)	1 μl
Primer 2 (5 pmole/μl)	1 μl
Sterile water	up to 20 μl

[a]Assemble the reaction mixture on ice
[b]Add the PCR polymerase at the final step
[c]Adjust Mg^{2+} to 1.5~5 mM with 25 mM $MgCl_2$
[d]Plasmid DNA, 0.1 ng~30 ng; genomic DNA, 50 ng~500 ng

- PCR cycle

Initial denaturation	95℃	2 min
Denaturation	95℃	30 sec
Annealing[a]	55℃~65℃	30~60 sec
Elongation	72℃	1 min/kb
Number of cycles	25~35 times	
Final elongation	72℃	5 min

When cycles are over, keep the reaction mixture at 4℃; may add 10 mM EDTA until use to prevent DNA degradation.
[a]Recommended annealing temperatures is 5 to 10℃ below the lower Tm of the two primers used.

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