*Eco*Taq HotStart DNA Polymerase, 5U/µL

250U, 1000U

Cat No: ETHS025, ETHS100

Shipping : Ship with blue ice.
Storage : Store at -20°C.

General Information

*Eco*Taq HotStart DNA Polymerase is a mixture of a monoclonal anti-Taq antibody and recombinant Taq DNA Polymerase, specifically designed for high-specificity PCR applications. The antibody binds to the Taq DNA polymerase and inhibits its activity at low temperatures, effectively preventing non-specific primer annealing and primer-dimer formation prior to thermal cycling.

During the initial denaturation step of PCR, the antibody is inactivated, thereby restoring full DNA polymerase activity and enabling a true hot start effect. This mechanism improves amplification specificity and yield without requiring additional enzyme activation steps or modifications to standard PCR protocols.

*Eco*Taq HotStart DNA Polymerase possesses 5′→3′ DNA polymerase activity and 5′→3′ exonuclease activity, but lacks 3′→5′ exonuclease (proofreading) activity. The enzyme exhibits an extension rate of approximately 2 kb/min and is capable of amplifying DNA fragments up to 5 kb in length. PCR products generated with this enzyme contain a single 3′-A overhang, making them suitable for direct T/A cloning.

*Eco*Taq HotStart DNA Polymerase offers high amplification efficiency and robust performance, making it ideal for routine PCR, DNA sequencing, cloning, and other molecular biology applications requiring enhanced specificity and reliability.

*Eco*Taq DNA Polymerase is supplied together with 10x Reaction Buffer. 10×PCR Buffer contains 15 mM $MgCl_2$.

PCR Setup

Component	Amount
*Eco*Taq HotStart DNA Polymerase, 5U/µl	0.25-0.5µL
10x Reaction Buffer	5 µl
Forward primer, 10 µM	2 µl
Reverse primer, 10 µM	2 µl
dNTP Mix, 10 mM each	1 µl
Template DNA	<0.5 µg
ddH_2O	up to 50 µl
Total	50 µl

Important Note: PCR reaction conditions might need optimization with additional $MgCl_2$ (not provided) depending on the primer binding properties.

Important Note: The reaction can be prepared at room temperature, and the reagents must be kept on ice.

PCR Reaction Condition

Temperature	Time	Cycles
94°C	2 min	
94°C	30 sec	
55-65°C	30 sec	30-35
72°C	30 sec/kb	
72°C	2 min	
4°C	∞	

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