Taq-antibody (B8)

REF: EG24105S

Storage Condition

-20℃

Components

Component	Amount
Taq-antibody (B8) (1.5 mg/ml)	100 μl

Description

Taq-antibody (B8) is a monoclonal antibody of murine origin that binds Taq polymerase and inhibits its activity efficiently. This antibody is able to bind to Taq DNA Polymerase so strongly that inhibits 95% activity of Polymerase at 55℃ . Therefore, it can effectively suppress the degradation of mismatched probes or other materials at low temperatures, reducing non-specific signals. After heated at 95 ℃ for 30 seconds, the enzyme-antibody complex dissociates, and the Taq-antibody (B8) becomes nonfunctional. Once the antibody is denatured, the activity of the Taq DNA polymerase is restored and the enzyme functions normally during the PCR reaction. This product is especially suitable for Quantitative Real-Time PCR based on probe method.

Exonuclease activity-blocking antibodies and polymerase activity-blocking antibodies can be used in combination to obtain double-blocking antibodies. When these antibodies bind to Taq DNA polymerase, they can simultaneously inhibit both polymerase and exonuclease activities,, further improving the specificity of the reaction.

Quality Control Assays

Protein Purity

The enzyme is ≥90% pure as determined by SDS-PAGE analysis using Coomassie Blue staining.

Function

Activity Inhibition Assay: Taq DNA Polymerase inhibited by Taq antibody is incubated at 50℃ for 4 hours, and the released polymerase activity is less than 5%.

Hot-Start Assay: Taq DNA Polymerase inhibited by Taq antibody is incubated at 95℃ for 30 seconds, and the released polymerase activity ≥95%.

Endonuclease Activity

A 20 μl reaction containing 200 ng of supercoiled plasmid and 5 U of Taq antibody incubated for 4 hours at 37℃ results in <10% conversion to the nicked or linearized form as determined by agarose gel electrophoresis.

Non-specific Nuclease Activity

A 20 μl reaction containing 15 ng of dsDNA fragments and 5 U of Taq antibody incubated for 16 hours at 37 ℃ results in no detectable degradation of the dsDNA fragments as determined by agarose gel electrophoresis.

Residual Host DNA

The product was tested by TaqMan qPCR with primers specific for the mouse genomic DNA, and the results show that the genome residues less than 1 copy.

Protocol

The molar ratio of antibody to Taq enzyme at 3:1 is sufficient for complete inhibition. It is recommended to conduct initial testing using different molar ratios to achieve optimal performance. The specific procedure can be found in the following steps:

① Prepare the Taq-antibody (B8) and Taq DNA Polymerase incubation system according to the table below (adjust as needed):

Mole Ratio	1:1	2:1	3:1	5:1
Taq-antibody (B8) (1.5 mg/ml)	16 μg	32 μg	48 μg	80 μg
Taq DNA Polymerase[a]	10 μg	10 μg	10 μg	10 μg
Taq Buffer[b]				To 100 μl

a.The molecular weights of Taq enzymes from different companies may vary. The recommended dosages in this table are calculated based on a Taq molecular weight of 94 kDa and an antibody molecular weight of 150 kDa. In actual use, adjustments can be made according to the molecular weight of the Taq enzyme being used.

b. Taq storage buffer formula: 50 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH8.0±0.05@25℃ .

② After gently mixing the above system evenly, incubate it in a 37 ℃ water bath for 3 hours to obtain a final concentration of 0.1 mg/ml of heat-start Taq enzyme.

Add: No.17 Huaguoshan Avenue,Lianyungang City, China
Tel: +86 (518) 8558 6628 • E-mail:support@best-enzymes.com • www.best-enzymes.com