Uracil-DNA Glycosylase（UNG）

Cat.No.: HYA313

Product Description

Uracil-DNA Glycosylase (UNG or UDG) is derived from the recombinant clone expression of *E.coli,* with a molecular weight of 25 kDa. It can catalyze the release of free uracil from single-stranded and double-stranded DNA containing uracil. It has no activity on RNA and can be used to prevent contamination caused by PCR amplification products. Its mechanism of action is based on: if dUTP is used instead of dTTP to be incorporated into DNA in the PCR reaction, a PCR amplification product containing dU base is formed. The enzyme can selectively break the glycosidic bond of the U base in single-stranded and double-stranded DNA and degrade the PCR amplification product.

Components

Component	100 U	1000 U	5000 U
1 U/uL Uracil-DNA Glycosylase	100 uL	1 mL	5 mL

Storage

Store at -25°C~ -15°C.

Unit Definition

1 unit is defined as the amount of enzyme that degrades 1 μg of single-stranded DNA containing dU in 1 hour at 37°C.

Quality Control

1. SDS-PAGE electrophoresis purity greater than 98%.
2. Degradation activity, batch-to-batch variation, and stability.
3. After 1U UNG is treated at 50℃ for 2 min, U-containing templates with less than 10^3 copies should be completely degraded and no amplification products can be produced.
4. No exogenous nuclease activity.

Notes

1. UNG enzyme can be used before PCR amplification reaction to remove the amplified products of dUTP contaminated in the reaction system to avoid false positive results caused by product contamination.

2. The optimal temperature for UNG enzyme to be used in anti-contamination PCR reaction is generally 50℃, the time is 2 min; the inactivation condition is 95℃ 5 min.
3. Repeated freezing and thawing should be avoided, and do not expose to an environment with large temperature fluctuations.
4. Different genes to be amplified have different utilization efficiency of dUTP and sensitivity to UNG enzyme. Therefore, if the use of UNG system leads to a decrease in detection sensitivity, the reaction system should be adjusted and optimized. If you need technical support, please contact our company.