Ver. EN240711

Uracil DNA Glycosylase (UDG/UNG), 1 U/μL

Product description

UDG (uracil DNA glycosylase) can catalyze the hydrolysis of the N-glycosidic link between the uracil base and the sugar-phosphate backbone in ssDNA and dsDNA. It can easily control aerosol pollution and is suitable for common molecular biology systems such as PCR, qPCR, RT-qPCR and LAMP.

Specifications

Component Number	Components	14455ES60 (100 U)	14455ES76 (500 U)	14455ES96 (10000 U)	14455ES98 (25000 U)
14455	Uracil DNA Glycosylase (UDG), 1 U/μL	100 μL	500 μL	10 mL	25 mL

Product Applications

1. Remove aerosol pollution of dU-containing PCR products.
2. Remove uracil from single or double-stranded DNA.

Unit Definition

One unit (U) is defined as the amount of enzyme that required to catalyze the hydrolysis of 1 μg dU-containing dsDNA in 30 minutes at 25°C.

Heat Inactivation

95°C, 5~10 min.

Storage

The product is shipped with dry ice and can be stored at -25~-15°C for 2 years.

Product Notes

1. UDG is active in most PCR reaction buffers.
2. Enzymes should be stored in an ice box or on an ice bath when used, and should be stored at -20°C immediately after use.
3. For your safety and health, please wear lab coats and disposable gloves for operation.
4. This product is for research use ONLY!

Instructions

1. Preparation of the PCR reaction mixture according to following system

Components	Volume (μL)	Final concentration
10×PCR Buffer (Mg^{2+} Plus)	5	1×
25 mmol/L $MgCl_2$	3	1.5 mmol/L
dUTP (10 mmol/L)	3	0.6 mmol/L
dCTP/dGTP/dATP/dTTP (10 mmol/L each)	1	0.2 mmol/L each
Template DNA	X	-
Primer 1 (10 μmol/L)	2	0.4 μmol/L
Primer 2 (10 μmol/L)	2	0.4 μmol/L
Taq DNA Polymerase (5 U/μL)	0.5	0.05 U/μL
Uracil DNA Glycosylase (UDG), 1 U/μL	1	1 U/50 μL
ddH_2O	Up to 50	-

Note:

According to the experimental requirements, the final concentration of dUTP can be adjusted between 0.2-0.6 mmol/L, and 0.2 mmol/L dTTP can be added selectively.

2. Amplification procedure

Cycle step	Temperature	Time	Cycles
dU-containing template degradation	25°C	10 min	1
UDG inactivation, template Pre-denaturation	95°C	5~10 min	1
Denaturation	95°C	10 sec	30-35
Annealing	60°C	20 sec	
Extension	72°C	30 sec/kb	
Final extension	72°C	5 min	1

Note: The reaction time at 25°C can be adjusted within 5-10 min according to the experimental requirements.