



Ver. HB230112

## Uracil DNA Glycosylase (UDG/UNG), 1 U/ $\mu$ L

### 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.

### Components

Components No.	Name	14455ES60 (100 U)	14455ES76 (500 U)	14455ES96 (10,000 U)
14455	Uracil DNA Glycosylase (UDG/UNG), 1 U/ $\mu$ L	100 $\mu$ L	500 $\mu$ L	10 mL

### Specifications

Expression Host	Recombinant <i>E. coli</i> with uracil DNA glycosylase gene
Molecular Weight	24.8 kDa
Purity	$\geq$ 95% (SDS-PAGE)
Heat Inactivation	95°C, 5~10 min
Unit Definition	One unit (U) is defined as the amount of enzyme that required to catalyze the hydrolysis of 1 $\mu$ g dU-containing dsDNA in 30 minutes at 25°C.

### Storage

The product should be stored at -25°C ~ -15°C for two years.

### Instructions

#### Preparation of the PCR reaction mixture according to following system

Components	Volume ( $\mu$ L)	Final concentration
10 $\times$ PCR Buffer (Mg <sup>2+</sup> Plus)	5	1 $\times$
25 mmol/L MgCl <sub>2</sub>	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 $\mu$ mol/L)	2	0.4 $\mu$ mol/L
Primer 2 (10 $\mu$ mol/L)	2	0.4 $\mu$ mol/L
Taq DNA Polymerase (5 U/ $\mu$ L)	0.5	0.05 U/ $\mu$ L
Uracil DNA Glycosylase (UDG/UNG), 1 U/ $\mu$ L	1	1 U/50 $\mu$ L
ddH <sub>2</sub> O	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.



### 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.

### 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. Please wear the necessary PPE, such lab coat and gloves, to ensure your health and safety!