

## UCF.ME™ Uracil DNA Glycosylase (UDG/UNG), 1 U/μL

### Product description

UCF.ME™ Uracil DNA Glycosylase (UDG/UNG) is a recombinant protein expressed and purified by *E. coli* and active at 25~37°C. This product is anti-pollution UDG enzyme with ultra low background bacteria residue. And this product catalyzes the release of free uracil from uracil-containing ssDNA or dsDNA by hydrolyzing the N-glycoside bond between uracil bases and sugar phosphate skeletons, producing AP sites that are easily broken by hydrolysis. This product can be widely used in common molecular biological systems such as PCR, qPCR, RT-qPCR and RT-LAMP. Compared with Uracil DNA Glycosylase (UDG/UNG), this product has lower host nucleic acid residue, which is suitable for application with more stringent requirements on background bacteria, such as pathogen microorganism detection.

### Specifications

Cat. No.	14454ES60 / 14454ES76 / 14454ES96
Size	100 U / 500 U / 10,000 U
Heat Inactivation	95°C, 5~10 min

### Components

Name	14454ES60	14454ES76	14454ES96
UCF.ME™ Uracil DNA Glycosylase (UDG/UNG), 1 U/μL	100 μL	500 μL	10 mL

### Storage

The product should be stored at -25~-15°C for 2 years.

## Instructions

### 1. Reaction Setup

Components	Volume ( $\mu\text{L}$ )	Final Concentration
10 $\times$ PCR Buffer ( $\text{Mg}^{2+}$ Plus)	5	1 $\times$
25 mM $\text{MgCl}_2$	3	1.5 mM
dUTP (10 mM)	3	0.6 mM
dCTP / dGTP/ dATP/ dTTP (10 mM each)	1	0.2 mM each
Template DNA	Optional	-
Primer 1 (10 $\mu\text{M}$ )	2	0.4 $\mu\text{M}$
Primer 2 (10 $\mu\text{M}$ )	2	0.4 $\mu\text{M}$
Taq DNA Polymerase (5 U/ $\mu\text{L}$ )	0.5	0.05 U/ $\mu\text{L}$
UCF.ME™ Uracil DNA Glycosylase (UDG/UNG), 1 U/ $\mu\text{L}$	1	1 U/50 $\mu\text{L}$
ddH <sub>2</sub> O	Up to 50	-

\*According to the demands of the experiment, the final concentration of dUTP can be adjusted between 0.2~0.6 mM, and 0.2 mM dTTP can be added selectively.

### 2. Amplification Procedure

Stage	Temperature	Time	Cycles
dU-containing template degradation	25°C	10 min	1
UDG inactivation and pre-denaturation of template	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

\*The reaction time at 25°C can be adjusted within 5~10 min according to the experimental require.

## Notes

- UDG enzyme is active in most PCR or RT-PCR reaction buffers, but it is recommended to test compatibility with the system used for the first time for self-used PCR or RT-PCR systems.
- The enzyme should be stored in the ice box or ice bath when used, and should be stored at -25~-15°C immediately after use.
- For your safety and health, please wear lab coats and disposable gloves for operation.
- This product is for scientific research purposes only.