

## UCF.ME™ Uracil DNA Glycosylase (UDG/UNG), heat-labile, 1 U/ $\mu$ L

### Product description

Heat-Labile UDG (uracil DNA glycosylase) catalyzes the release of free uracil from uracil-containing DNA by hydrolyzing the N-glycoside bond between uracil bases and sugar phosphate skeletons. Compared with conventional UDG enzyme, heat-Labile UDG can avoid the degradation of dU-containing amplification products caused by residual activity of the inactivated UDG. This product is sensitive to temperature, and can be completely inactivated by incubation at 55°C for 5 min or 50°C for 10 min. In addition, this product has been processed by the UCF.ME™ ultra-low residue process, and its residual DNA contamination of *E. coli* is extremely low, which is suitable for the detection of pathogenic microorganisms and other fields.

### Specifications

Cat. No.	14466ES60 / 14466ES76 / 14466ES96
Size	100 U / 500 U / 10,000 U
Heat Inactivation	55°C for 5 min; 50°C for 10 min

### Components

Name	14466ES60	14466ES76	14466ES96
UCF.ME™ Uracil DNA Glycosylase (UDG/UNG), heat-labile, 1 U/ $\mu$ L	100 $\mu$ L	500 $\mu$ L	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.MET <sup>TM</sup> Uracil DNA Glycosylase (UDG/UNG), heat-labile, 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 $^{\circ}\text{C}$	10 min*	1
UDG inactivation and pre-denaturation of template	94 $^{\circ}\text{C}$	2 min	1
Denaturation	95 $^{\circ}\text{C}$	10 sec	30~35
Annealing	60 $^{\circ}\text{C}$	20 sec	
Extension	72 $^{\circ}\text{C}$	30 sec/kb	
Final extension	72 $^{\circ}\text{C}$	5 min	1

\*The reaction time at 25 $^{\circ}\text{C}$  can be adjusted within 5~10 min according to the experimental requirements.

## Notes

- Heat-labile UDG is active in most PCR reaction buffers.
- The enzyme should be stored in the ice box or ice bath when used, and should be stored at -25~-15 $^{\circ}\text{C}$  immediately after use.
- For your safety and health, please wear lab coats and disposable gloves for operation.
- This product is scientific research purposes only.