Ver. EN240711

Uracil DNA Glycosylase (UDG), Heat-Labile (Glycerol-Free)

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 at room temperature. Heat-Labile UDG (uracil DNA glycosylase) works at room temperature and is thermolabile and easy to be inactivated.

Specifications

Component Number	Components	10707ES60 (100 U)	10707ES76 (500 U)	10707ES90 (5 KU)	10707ES92 (10 KU)
10707	Uracil DNA Glycosylase (UDG), Heat-Labile (Glycerol-Free,1 U/μL)	100 μL	500 μL	5 mL	10 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

94°C, 2~5 min.

Storage

The product is shipped with ice packs and can be stored at 2~8°C for 1 years.

Product Notes

1. UDG is active in most PCR reaction buffers.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. 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
Heat-Labile 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	94°C	2 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.