

## Product components

| Components              | Component number | Size-1  | Size-2      |
|-------------------------|------------------|---------|-------------|
|                         |                  | 1000 U  | 5000 U      |
| UDG                     | RM21505          | 200 µL  | 1 mL        |
| 10X UDG Reaction Buffer | RM20132          | 1.25 mL | 1.25 mL X 4 |

## Product Description

*E. coli* Uracil-DNA Glycosylase (UDG) catalyzes the release of free uracil from uracil-containing DNA. UDG efficiently hydrolyzes uracil from single-stranded or double-stranded DNA, but not from oligomers (6 or fewer bases).

It releases uracil from ss- or ds-DNA and is applicable to eliminates PCR carry-over contamination.

## Product Source

An *E. coli* strain that carries the UDG gene from *E. coli*.

## Unit Definition

One unit is defined as the amount of enzyme that catalyzes the release of 60 pmol of uracil per minute from double-stranded, uracil-containing DNA. Activity is measured by release of [<sup>3</sup>H]-uracil in a 50 µl reaction containing 0.2 µg DNA (10<sup>4</sup>-10<sup>5</sup> cpm/µg) in 30 minutes at 37°C.

## Reaction Conditions

1X UDG Reaction Buffer, Incubate at 37°C

## 1X UDG Reaction Buffer

20 mM Tris-HCl, 1 mM DTT, 1 mM EDTA, pH 8 @ 25°C

## Storage Temperature

-20°C

## Storage Conditions

10 mM Tris-HCl, 50 mM KCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, pH 7.4 @ 25°C

**Heat Inactivation:** No

## Application Features

Treatment of 0.1 µg of uracil-containing DNA with 1 unit of UDG for 10 minutes at 37°C renders the DNA incapable of being copied by DNA polymerase. The enzyme can be 95% heat killed by incubation at 95°C for 10 minutes. Since UDG remains partially active following heat treatment at 95°C, it is recommended that uracil glycosylase inhibitor be added to prevent degradation of product DNA. Alternatively, reaction products can be immediately extracted with phenol/chloroform.

Notes:UDG is active over a broad pH range with an optimum at pH 8.0, does not require divalent cation, and is inhibited by high ionic strength (> 200 mM).