

# Uracil-DNA Glycosylase (UDG)



**Catalog:** RK20527

**Size:** 1,000 U / 5,000 U

**Concentration:** 5,000 U/ml

**Components:**

UDG	RM21505
10X UDG Reaction Buffer	RM20132

## 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 eliminate 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, 0.1 mg/ml BSA, 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).

**QC Process:**

- ◆ Purity (SDS-PAGE) is above 95%.
- ◆ No endonuclease, ss-DNase, or other RNases contamination.
- ◆ No residual host genomic DNA detected by PCR.