Uracil-DNA Glycosylase (UDG)

Cat. No. : RK20527

Product components

Components	Component number	Size-1 1000 U	Size-2 5000 U
UDG (5,000 U/mL)	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 [^{3}H]-uracil in a 50 μl reaction containing 0.2 μg DNA (10^4-10^5 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 is above 95% detected by SDS-PAGE.

No endonucleases, ss-DNase and other RNases contamination.

No residual host genomic DNA detected by PCR .