

Recombinant E. coli ung Protein

Cat. No. CMC13 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant ung protein was expressed in an E. coli strain that carries the UDG gene from E. coli.
Species	E.coli
Source	E.coli
Description	UDG and Ndk form a complex (Goswami, 2006). [More information is available at EcoGene: EG11058]. Uracil can be generated in DNA as a result of misincorporation by DNA polymerase, spontaneous deamination of cytosine, and deamination of cytosine induced by bisulfite or nitrous acid.
Form	Reagents Supplied The following reagents are supplied with this product: 10X UDG Reaction Buffer
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 [3H]-uracil in a 50 µreaction containing 0.2 g DNA (10^4 - 10^5 cpm/g) in 30 minutes at 37 centigrade.
Applications	Treatment of 0.1 g of uracil-containing DNA with 1 unit of UDG for 10 minutes at 37 centigrade renders the DNA incapable of being copied by DNA polymerase. The enzyme can be 95% heat killed by incubation at 95 centigrade for 10 minutes. Since UDG remains partially active following heat treatment at 95 centigrade, it is

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	recommended that uracil glycosylase inhibitor be added to prevent degradation of product DNA. Alternatively, reaction products can be immediately extracted with phenol/chloroform.
Usage	Reaction Conditions 1X UDG Reaction Buffer Incubate at 37 centigrade 1X UDG Reaction Buffer 20 mM Tris-HCl 1 mM DTT 1 mM EDTA (pH 8 @ 25 centigrade) Heat Inactivation No Unit Assay Conditions 1X UDG Reaction Buffer, 1 unit of uracil DNA Glycosylase, 0.2 g 3H-uracil DNA (10⁴-10⁵ cpm/μg) for 30 minutes at 37 centigrade in a total reaction volume of 50 μ
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).
Storage	At -20 centigrade.
Concentration	5,000 units/mL
Storage Buffer	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

GENE INFORMATION

Gene Name	ung
Official Symbol	ung uracil-DNA-glycosylase [Escherichia coli str. K-12 substr. MG1655]
Synonyms	ung; uracil-DNA-glycosylase; ECK2578; JW2564; uracil-DNA-glycosylase; EC 3.2.2.-
Gene ID	947067
Protein Refseq	NP_417075
UniProt ID	P12295

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