

# Recombinant Human SMUG1, His-tagged

**Cat. No.** SMUG1-7066H    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant human SMUG1 protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.                                                                                                                                                                                                 |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                  |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                 |
| <b>ProteinLength</b>    | 1-270aa                                                                                                                                                                                                                                                                                                                                                |
| <b>Description</b>      | Single-strand-selective monofunctional uracil-DNA glycosylase, also known as SMUG1, is a enzyme responsible for recognizing base lesions in the genome and initiating base excision DNA repair. This protein acts as a monofunctional DNA glycosylase specific for uracil (U) residues in DNA and has a preference for single-stranded DNA substrates. |
| <b>Form</b>             | Liquid. In 20mM Tris-HCl buffer (pH 8.0) containing 0.2M NaCl,30% glycerol, 1mM DTT                                                                                                                                                                                                                                                                    |
| <b>Molecular Mass</b>   | 32.3 kDa (293aa)                                                                                                                                                                                                                                                                                                                                       |
| <b>AA Sequence</b>      | MGSSHHHHHH SSGLVPRGSH MGSMPQAFLL GSIHEPAGAL MEPQPCPGSL<br>AESFLEELR LNAELSQLQF SEPVGIIYNP VEYAWEPHRN YVTRYCQGP<br>EVLFLGMNPG PFGMAQTGVP FGEVSMVRDW LGIVGPVLTP PQEHPKRPVL<br>GLECPQSEVS GARFWGFFRN LCGQPEVFFH HCFVHNLCP LFLAPSGRNL<br>TPAELPAKQR EQLLGICDAA LCRQVQLLGV RLVVGVGRLA EQRARRALAG                                                            |

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LMPEVQVEGL LHPSPRNPQA NKGWEAVAKE RLNELGLLPL LLK

**Purity** >95% by SDS - PAGE

**Applications** SDS-PAGE

**Storage** Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

**Concentration** 1 mg/ml

## GENE INFORMATION

**Gene Name** [SMUG1 single-strand-selective monofunctional uracil-DNA glycosylase 1 \[ Homo sapiens \]](#)

**Official Symbol** SMUG1

**Synonyms** SMUG1; single-strand-selective monofunctional uracil-DNA glycosylase 1; single-strand selective monofunctional uracil DNA glycosylase; FDG; HMUDG; UNG3; MGC104370;

**Gene ID** [23583](#)

**mRNA Refseq** [NM\\_001243787](#)

**Protein Refseq** [NP\\_001230716](#)

**MIM** [607753](#)

**UniProt ID** [Q53HV7](#)

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|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chromosome Location</b> | 12q13.11-q13.3                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Pathway</b>             | Base Excision Repair, organism-specific biosystem; Base excision repair, organism-specific biosystem; Base excision repair, conserved biosystem; Base-Excision Repair, AP Site Formation, organism-specific biosystem; Base-free sugar-phosphate removal via the single-nucleotide replacement pathway, organism-specific biosystem; Cleavage of the damaged pyrimidine, organism-specific biosystem; DNA Repair, organism-specific biosystem; |
| <b>Function</b>            | DNA N-glycosylase activity; DNA binding; hydrolase activity, acting on glycosyl bonds; protein binding; single-strand selective uracil DNA N-glycosylase activity; uracil DNA N-glycosylase activity;                                                                                                                                                                                                                                          |

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