

Product datasheet for **RC212141**

SMUG1 (NM_014311) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SMUG1 (NM_014311) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SMUG1
Synonyms:	FDG; HMUDG; UNG3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC212141 representing NM_014311 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCCCCAGGCTTTCCTGCTGGGGTCCATCCATGAGCCTGCAGGTGCCCTCATGGAGCCCCAGCCCTGCC
CTGGAAGCTTGGCTGAGAGCTTCTGGAGGAGGAGCTTCGGCTCAATGCTGAGCTGAGCCAGCTGCAGTT
TTCGGAGCCTGTGGGCATCATCTACAATCCCGTGGAGTATGCATGGGAGCCACATCGCAACTACGTGACT
CGCTACTGCCAGGGCCCCAAGGAAGTACTTCTGGGCATGAACCCTGGACCTTTTGGCATGGCCAGA
CTGGGGTGCCCTTGGGGAAGTAAGCATGGTCCGGGACTGGTTGGGCATTGTGGGCCTGTGCTGACCCC
TCCCCAAGAGCATCCTAACGACCAGTGTGGGACTGGAGTGCCACAGTCAGAAGTGAGTGGTGCCCGA
TTCTGGGGCTTTTTCCGGAACCTCTGTGGACAGCCTGAGGTCTTCTCCATCACTGTTTTGTCCACAATC
TATGCCCTCTGCTTTTCTGGCTCCCAGCGGGCGCAACCTTACTCCTGCTGAGCTGCCTGCCAAGCAGCG
AGAACAGCTTCTTGGGATCTGTGATGCAGCCCTCTGCCGGCAGGTGCAGCTGCTGGGGTGGCGTGGT
GTGGGAGTTGGGCGACTGGCAGAGCAGCGGGCACGACGGGCTCTGGCAGGCCTGATGCCAGAGGTCCAGG
TGAAGGGCTCCTGCATCCCTCTCCCGTAACCCACAGGCCAACAAAGGGCTGGGAGGCAGTGCCAAAGGA
AAGATTGAATGAGCTGGGGCTGCTGCCACTGCTGTTGAAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC212141 representing NM_014311
 Red=Cloning site Green=Tags(s)

MPQAFLLGSIHEPAGALMEPQPCPGSLAESFLEEELRLNAELSQLQFSEPVGIIYNPVEYAWEPHRNYVT
 RYCQGPKEVFLGMNPGPFGMAQTGVVPGEVSMVRDWLGIVGPVLTTPQEHPKRPVLTGLECPQSEVSGAR
 FWGFFRNLCGQPEVFFHHCFVHNLCPLLFLAPSGRNLTPAELPAKQREQLLGICDAALCRQVQLLGVRLV
 VGVGRLAEQRARRALAGLMPEVQVEGLLHPSRNPQANKGWEAVAKERLNELGLLPLLLK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6475_e04.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_014311

ORF Size: 810 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_014311.2](#)

RefSeq Size: 1570 bp

RefSeq ORF: 813 bp

Locus ID: 23583

UniProt ID: [Q53HV7](#)

Cytogenetics: 12q13.13

Domains: UDG

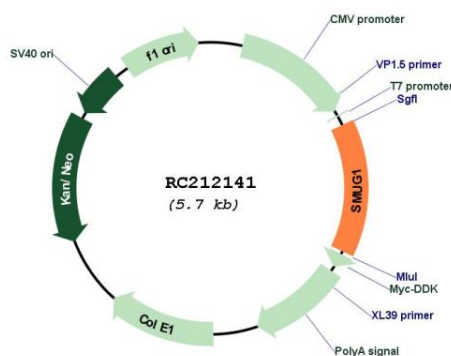
Protein Families: Druggable Genome

Protein Pathways: Base excision repair

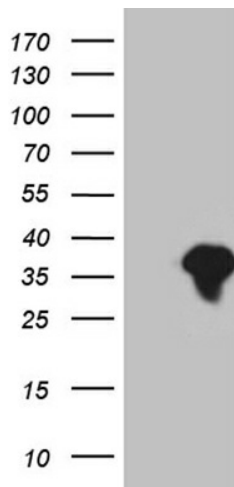
MW: 29.7 kDa

Gene Summary: This gene encodes a protein that participates in base excision repair by removing uracil from single- and double-stranded DNA. Many alternatively spliced transcript variants exist for this gene; the full-length nature is known for some but not all of the variants. [provided by RefSeq, Aug 2011]

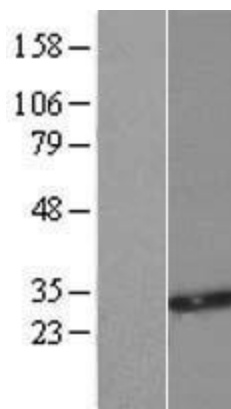
Product images:



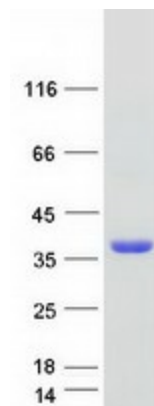
Circular map for RC212141



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY SMUG1 (Cat# RC212141, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-SMUG1 (Cat# [TA810345])(1:2000). Positive lysates [LY415367] (100ug) and [LC415367] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY415367]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC212141 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SMUG1 protein (Cat# [TP312141]). The protein was produced from HEK293T cells transfected with SMUG1 cDNA clone (Cat# RC212141) using MegaTran 2.0 (Cat# [TT210002]).