10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SMUG1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17422a

Product Information

Application	WB, E
Primary Accession	Q53HV7
Other Accession	NP_055126.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB36995
Calculated MW	29862
Antigen Region	43-71

Additional Information

Gene ID	23583
Other Names	Single-strand selective monofunctional uracil DNA glycosylase, 322-, SMUG1
Target/Specificity	This SMUG1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 43-71 amino acids from the N-terminal region of human SMUG1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SMUG1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SMUG1
Function	Recognizes base lesions in the genome and initiates base excision DNA repair. Acts as a monofunctional DNA glycosylase specific for uracil (U) residues in DNA with a preference for single-stranded DNA substrates. The activity is greater toward mismatches (U/G) compared to matches (U/A).

Excises uracil (U), 5-formyluracil (fU) and uracil derivatives bearing an oxidized group at C5 [5-hydroxyuracil (hoU) and 5-hydroxymethyluracil (hmU)] in ssDNA and dsDNA, but not analogous cytosine derivatives (5-hydroxycytosine and 5- formylcytosine), nor other oxidized bases. The activity is damage-specific and salt-dependent. The substrate preference is the following: ssDNA > dsDNA (G pair) = dsDNA (A pair) at low salt concentration, and dsDNA (G pair) > dsDNA (A pair) > ssDNA at high salt concentration.

Cellular Location Nucleus

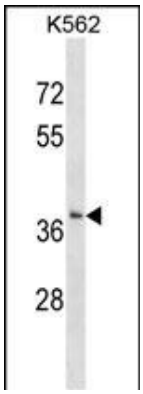
Background

SMUG1 is a glycosylase that removes uracil from single- and double-stranded DNA in nuclear chromatin, thus contributing to base excision repair.

References

Arora, M., et al. Leukemia 24(8):1470-1475(2010)
Thyagarajan, B., et al. Biol. Blood Marrow Transplant. 16(8):1084-1089(2010)
Briggs, F.B., et al. Am. J. Epidemiol. 172(2):217-224(2010)
Chanson, A., et al. Am. J. Clin. Nutr. 89(6):1927-1936(2009)
Knaevelsrud, I., et al. Int. J. Radiat. Biol. 85(5):413-420(2009)

Images



SMUG1 Antibody (N-term) (Cat. #AP17422a) western blot analysis in K562 cell line lysates (35ug/lane).This demonstrates the SMUG1 antibody detected the SMUG1 protein (arrow).