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SMUG1 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51894

Product Information

Application	WB
Primary Accession	Q53HV7
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	29862

Additional Information

Gene ID	23583
Other Names	Single-strand selective monofunctional uracil DNA glycosylase, 322-, SMUG1
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human SMUG1. The exact sequence is proprietary.
Dilution	WB~~ 1:1000
Format	0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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

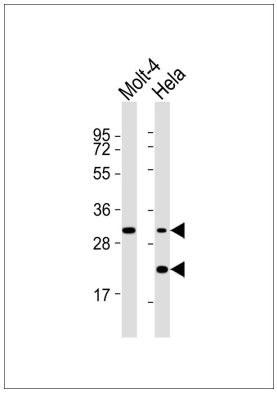
Background

Responsible for recognizing base lesions in the genome and initiating base excision DNA repair. Acts as a monofunctional DNA glycosylase specific for uracil (U) residues in DNA and has a preference for single-stranded DNA substrates. The activity is greater against mismatches (U/G) than against matches (U/A). Excised 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) and other oxidized damage. The activity is damage specificity and salt concentration-dependent. The general order of the preference for ssDNA and dsDNA is the following: ssDNA > dsDNA (G pair) = dsDNA (A pair) at the low salt concentration. At the high concentration dsDNA (G pair) > dsDNA (A pair) > ssDNA.

References

Haushalter K.A.,et al.Curr. Biol. 9:174-185(1999).
Masaoka A.,et al.Biochemistry 42:5003-5012(2003).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Suzuki Y.,et al.Submitted (APR-2005) to the EMBL/GenBank/DDBJ databases.
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.

Images



All lanes : Anti-SMUG1 Antibody at 1:1000 dilution Lane 1: Molt-4 whole cell lysates Lane 2: Hela whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/10000 dilution Predicted band size : 30 kDa Blocking/Dilution buffer: 5% NFDM/TBST.