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Recombinant Anti-UDG Rabbit mAb

Catalog # AP95240

Product Information

Application	WB, IHC, FC, IF/IC
Primary Accession	P13051
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal
Calculated MW	34645

Additional Information

Gene ID	7374
Other Names	DGU; UNG1; UNG15; Uracil-DNA glycosylase; UDG
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within human UDG protein. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500 FC~~1:10~50 IF/IC~~N/A
Format	Liquid in PBS, pH 7.3, 50% glycerol, 0.05% BSA, and 0.05% Proclin300.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

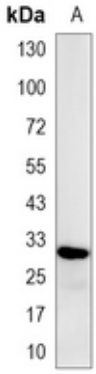
Protein Information

Name	UNG {ECO:0000255|HAMAP-Rule:MF_03166}
Function	Uracil-DNA glycosylase that hydrolyzes the N-glycosidic bond between uracil and deoxyribose in single- and double-stranded DNA (ssDNA and dsDNA) to release a free uracil residue and form an abasic (apurinic/apyrimidinic; AP) site. Excises uracil residues arising as a result of misincorporation of dUMP residues by DNA polymerase during replication or due to spontaneous or enzymatic deamination of cytosine (PubMed:12958596, PubMed:15967827, PubMed:17101234, PubMed:22521144, PubMed:7671300, PubMed:8900285, PubMed:9016624, PubMed:9776759). Mediates error-free base excision repair (BER) of uracil at replication forks. According to the model, it is recruited by PCNA to S-phase replication forks to remove misincorporated uracil at U:A base mispairs in nascent DNA strands. Via trimeric RPA it is recruited to ssDNA stretches ahead of the polymerase to allow detection and excision of deaminated cytosines prior to replication. The resultant AP sites temporarily stall replication, allowing time to repair the lesion (PubMed:22521144). Mediates mutagenic uracil processing involved in antibody affinity maturation. Processes AICDA-induced U:G base mispairs at variable immunoglobulin (Ig) regions leading to the generation of transversion

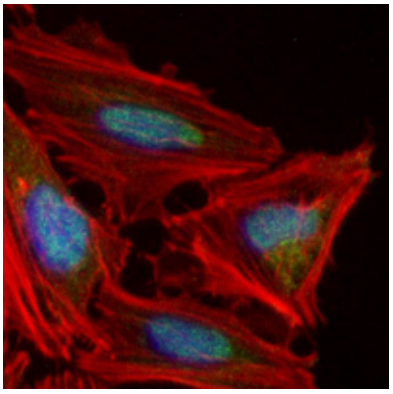
mutations (PubMed:12958596). Operates at switch sites of Ig constant regions where it mediates Ig isotype class switch recombination. Excises AICDA-induced uracil residues forming AP sites that are subsequently nicked by APEX1 endonuclease. The accumulation of staggered nicks in opposite strands results in double strand DNA breaks that are finally resolved via non-homologous end joining repair pathway (By similarity) (PubMed:12958596).

Cellular Location [Isoform 1]: Mitochondrion

Images



Western blot analysis of UDG expression in HeLa (A) whole cell lysates. (Predicted band size: 35 kD; Observed band size: 32 kD)



Immunofluorescent analysis of UDG staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with an AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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