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

UNG Antibody

Rabbit mAb
Catalog # AP92388

Product Information

Application	WB, IHC, IF, FC, ICC, IHF
Primary Accession	P13051
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	UNG; DGU; HIGM4; HIGM5; Uracil-DNA glycosylase; UNG1; UNG2; UDG; UNG15;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	34645

Additional Information

Dilution	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 FC 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human UNG
Description	Excises uracil residues from the DNA which can arise as a result of misincorporation of dUMP residues by DNA polymerase or due to deamination of cytosine.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

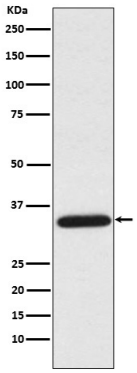
Protein Information

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 UNG expression in HeLa cell lysate.