ARG57019
anti-Thymine DNA glycosylase antibody [2F7]

Package: 50 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [2F7] recognizes Thymine DNA glycosylase
Tested Reactivity	Hu
Tested Application	WB
Host	Mouse
Clonality	Monoclonal
Clone	2F7
Isotype	IgG1, kappa
Target Name	Thymine DNA glycosylase
Species	Human
Immunogen	Recombinant fragment around aa. 1-410 of Human Thymine DNA glycosylase.
Conjugation	Un-conjugated
Alternate Names	G/T mismatch-specific thymine DNA glycosylase; hTDG; Thymine-DNA glycosylase; EC 3.2.2.29

Application Instructions

Application table

Application	Dilution
WB	1:250

Application Note

* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

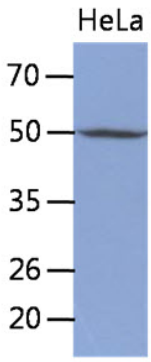
Properties

Form	Liquid
Purification	Purification with Protein A.
Buffer	PBS (pH 7.4), 0.02% Sodium azide and 10% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	10% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Database links	GeneID: 6996 Human Swiss-port # Q13569 Human
Gene Symbol	TDG
Gene Full Name	thymine DNA glycosylase
Background	The protein encoded by this gene belongs to the TDG/mug DNA glycosylase family. Thymine-DNA glycosylase (TDG) removes thymine moieties from G/T mismatches by hydrolyzing the carbon-nitrogen bond between the sugar-phosphate backbone of DNA and the mispaired thymine. With lower activity, this enzyme also removes thymine from C/T and T/T mispairings. TDG can also remove uracil and 5-bromouracil from mispairings with guanine. This enzyme plays a central role in cellular defense against genetic mutation caused by the spontaneous deamination of 5-methylcytosine and cytosine. This gene may have a pseudogene in the p arm of chromosome 12. [provided by RefSeq, Jul 2008]
Function	DNA glycosylase that plays a key role in active DNA demethylation: specifically recognizes and binds 5-formylcytosine (5fC) and 5-carboxylcytosine (5caC) in the context of CpG sites and mediates their excision through base-excision repair (BER) to install an unmethylated cytosine. Cannot remove 5-hydroxymethylcytosine (5hmC). According to an alternative model, involved in DNA demethylation by mediating DNA glycolase activity toward 5-hydroxymethyluracil (5hmU) produced by deamination of 5hmC. Also involved in DNA repair by acting as a thymine-DNA glycosylase that mediates correction of G/T mispairs to G/C pairs: in the DNA of higher eukaryotes, hydrolytic deamination of 5-methylcytosine to thymine leads to the formation of G/T mismatches. Its role in the repair of canonical base damage is however minor compared to its role in DNA demethylation. It is capable of hydrolyzing the carbon-nitrogen bond between the sugar-phosphate backbone of the DNA and a mispaired thymine. In addition to the G/T, it can remove thymine also from C/T and T/T mispairs in the order G/T >> C/T > T/T. It has no detectable activity on apyrimidinic sites and does not catalyze the removal of thymine from A/T pairs or from single-stranded DNA. It can also remove uracil and 5-bromouracil from mispairs with guanine. [UniProt]
Calculated Mw	46 kDa
PTM	Sumoylation on Lys-330 by either SUMO1 or SUMO2 induces dissociation of the product DNA.

Images



ARG57019 anti-Thymine DNA glycosylase antibody [2F7] WB image

Western blot: 30 µg of HeLa cell lysate stained with ARG57019 anti-Thymine DNA glycosylase antibody [2F7] at 1:250.