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TDG Antibody (C-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6624b

Specification

TDG Antibody (C-term) - Product Information

Application	**WB, FC,E**
Primary Accession	Q13569
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**46053**
Antigen Region	**281-310**

TDG Antibody (C-term) - Additional Information

Gene ID 6996

Other Names
G/T mismatch-specific thymine DNA glycosylase, Thymine-DNA glycosylase, hTDG, TDG

Target/Specificity
This TDG antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 281-310 amino acids from the C-terminal region of human TDG.

Dilution
WB~~1:1000
FC~~1:10~50

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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
TDG Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

TDG Antibody (C-term) - Protein Information

Name TDG

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.

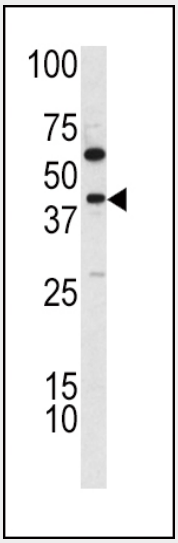
Cellular Location
Nucleus.

TDG Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

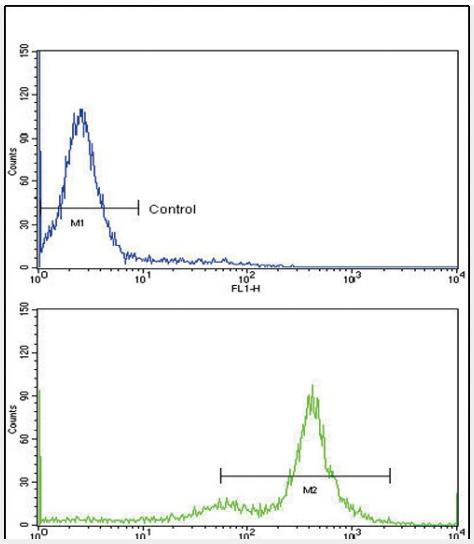
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

TDG Antibody (C-term) - Images



Western blot analysis of TDG antibody (C-term) (Cat. #AP6624b) in K562 cell line lysates (35ug/lane). TDG (arrow) was detected using the purified Pab.

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Flow cytometric analysis of K562 cells using TDG Antibody (C-term)(bottom histogram) compared to a negative control cell (top histogram)FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

TDG Antibody (C-term) - Background

The protein TDG 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.

TDG Antibody (C-term) - References

Kim,E.J., Biochem. Biophys. Res. Commun. 377 (3), 838-842 (2008)
Neddermann,P., J. Biol. Chem. 271 (22), 12767-12774 (1996)