

**TDG Antibody (N-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP6624a****Specification**

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**TDG Antibody (N-term) - Product Information**

Application	WB, FC,E
Primary Accession	<a href="#">Q13569</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	46053
Antigen Region	81-110

**TDG Antibody (N-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 81-110 amino acids from the N-terminal region of human TDG.

**Dilution**

WB~~1:1000

FC~~1:10~50

E~~Use at an assay dependent concentration.

**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 (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**TDG Antibody (N-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 mismatches 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 mismatches in the order  $G/T \gg C/T > T/T$ . 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 mismatches with guanine.

#### Cellular Location

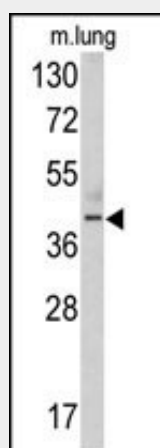
Nucleus.

#### TDG Antibody (N-term) - Protocols

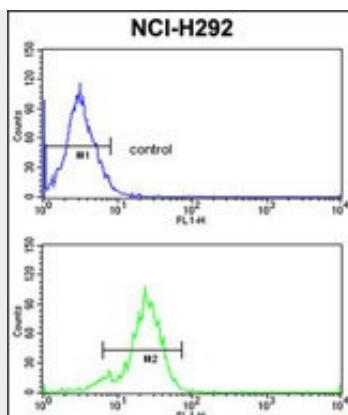
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### TDG Antibody (N-term) - Images



Western blot analysis of TDG antibody (N-term) (Cat. #AP6624a) in mouse lung tissue lysates (35ug/lane). TDG (arrow) was detected using the purified Pab.



TDG Antibody (N-term) (Cat. #AP6624a) flow cytometric analysis of NCI-H292 cells (bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

### **TDG Antibody (N-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 (N-term) - References**

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