

**TDG Antibody**  
**Rabbit Polyclonal Antibody**  
**Catalog # ABV11150****Specification**

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**TDG Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q13569</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	46053

**TDG Antibody - Additional Information****Gene ID** 6996

Positive Control	Western Blot: Brain cell lysates
Application & Usage	Western blot: 1:500 - 1:1000.
<b>Other Names</b>	
TDG.	

**Target/Specificity**  
TDG**Antibody Form**  
Liquid**Appearance**  
Colorless liquid**Formulation**  
100 µg of antibody in 100 µl PBS containing 0.02% sodium azide, 50% glycerol, pH 7.3**Handling**  
The antibody solution should be gently mixed before use.**Reconstitution & Storage**  
-20 °C**Background Descriptions****Precautions**  
TDG Antibody is for research use only and not for use in diagnostic or therapeutic procedures.**TDG Antibody - 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 >> 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.

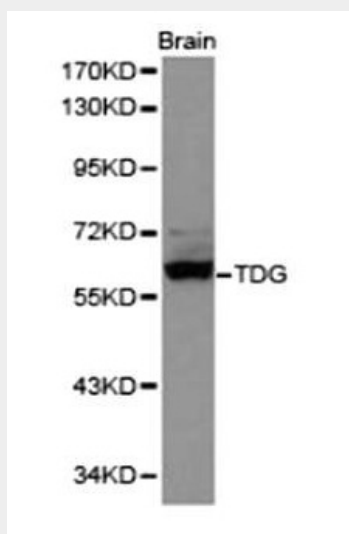
**Cellular Location**

Nucleus.

**TDG Antibody - 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 - Images**

WB of brain cell extract with TDG pAb.

## **TDG Antibody - Background**

In the DNA of higher eukaryotes, hydrolytic deamination of 5methylcytosine to thymine leads to the formation of G/T mismatches. G/T mismatch specific Thymine DNA Glycosylase (TDG) is a nuclear protein which corrects G/T mismatches to G/C pairs by hydrolyzing the carbon nitrogen bond between the sugar phosphate backbone of the DNA and the mispaired thymine. TDG also corrects a subset of G/U mispairs inefficiently removed by the more abundant uracil glycosylases. Retinoic acid receptors interact physically and functionally with TDG, enhancing the ability of the retinoid X receptor and the retinoid X receptor/retinoid acid receptor complex to bind to their response elements. TDG interacts with, and is covalently modified by, the ubiquitinlike proteins SUMO1 and SUMO2/3, resulting in a reduction of the DNA substrate and AP site binding affinity of TDG. This sumoylation is associated with a significant increase in enzymatic turnover in reactions with a G/U substrate and the loss of G/T processing activity.