

# TDG (H-114): sc-292440

## BACKGROUND

In the DNA of higher eukaryotes, hydrolytic deamination of 5-methylcytosine 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/retinoic acid receptor complex to bind to their response elements. TDG interacts with, and is covalently modified by, the ubiquitin-like proteins SUMO-1 and SUMO-2/3, 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.

## CHROMOSOMAL LOCATION

Genetic locus: TDG (human) mapping to 12q23.3; Tdg (mouse) mapping to 10 C1.

## SOURCE

TDG (H-114) is a rabbit polyclonal antibody raised against amino acids 108-221 mapping within an internal region of TDG of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

TDG (H-114) is recommended for detection of TDG of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TDG (H-114) is also recommended for detection of TDG in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for TDG siRNA (h): sc-44142, TDG siRNA (m): sc-154155, TDG shRNA Plasmid (h): sc-44142-SH, TDG shRNA Plasmid (m): sc-154155-SH, TDG shRNA (h) Lentiviral Particles: sc-44142-V and TDG shRNA (m) Lentiviral Particles: sc-154155-V.

Molecular Weight (predicted) of TDG: 46 kDa.

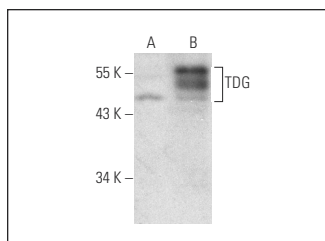
Molecular Weight (observed) of TDG: 53 kDa.

Positive Controls: TDG (h): 293T Lysate: sc-114834.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



TDG (H-114): sc-292440. Western blot analysis of TDG expression in non-transfected: sc-117752 (A) and human TDG transfected: sc-114834 (B) 293T whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **TDG (D-11): sc-376652**, our highly recommended monoclonal alternative to TDG (H-114). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **TDG (D-11): sc-376652**.