

TDP1 (D8D1B) Rabbit mAb

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-IC	H M R	Endogenous	70	Rabbit IgG	#Q9NUW8	55775

Product Usage Information**Application**

Western Blotting
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

TDP1 (D8D1B) Rabbit mAb recognizes endogenous levels of total TDP1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro587 of human TDP1 protein.

Background

Topoisomerases are ubiquitous, conserved enzymes that remove DNA supercoils resulting from processes such as chromosome segregation, DNA replication, transcription, and repair (1). Topoisomerase inhibitors such as camptothecin and etoposide trap the enzyme as a DNA-bound intermediate, and these drugs are used to treat multiple human cancers (1,2). Tyrosyl-DNA-phosphodiesterases TDP1 and TDP2 function in the base excision repair (BER) and nonhomologous end joining (NHEJ) DNA repair pathways, respectively, and function in part in the repair of stalled topoisomerase-DNA complexes (3). Research has shown that inhibitors of tyrosyl-DNA-phosphodiesterases may act synergistically with topoisomerase inhibitors, allowing the potential for a more robust treatment of cancer (4,5). In small cell lung cancer, research suggests that TDP1 and topoisomerase 1 levels can predict sensitivity to topoisomerase 1 inhibitors (6).

Background References

1. Pommier, Y. (2013) *ACS Chem Biol* 8, 82-95.
2. Saijo, N. (2000) *Ann N Y Acad Sci* 922, 92-9.
3. Pommier, Y. et al. (2014) *DNA Repair (Amst)* 19, 114-29.
4. Nguyen, T.X. et al. (2012) *J Med Chem* 55, 4457-78.
5. Huang, S.N. et al. (2011) *Expert Opin Ther Pat* 21, 1285-92.
6. Meisenberg, C. et al. (2014) *J Cancer Sci Ther* 6, 258-67.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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