10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-TDP2 / EAPII Antibody

Mouse Monoclonal Antibody
Catalog # AH13424

Product Information

Application	IHC-P, IF, FC
Primary Accession	O95551
Other Accession	728795
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2b, kappa
Clone Names	TDP2/1258
Calculated MW	40930

Additional Information

Gene ID	51567
Other Names	5'-Tyr-DNA phosphodiesterase; EAP2; EAPII; ETS1-associated protein 2; ETS1-associated protein II; TRAF and TNF receptor-associated protein; TTRAP; Tyr-DNA phosphodiesterase 2; Tyrosyl-DNA phosphodiesterase 2 (TDP2)
Application Note	Flow Cytometry (0.5-1ug/million cells); Immunofluorescence (0.5-1ug/ml); Immunohistology (Formalin-fixed) (0.5-1ug/ml for 30 minutes at RT)(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 10-20 min followed by cooling at RT for 20 minutes)Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-TDP2 / EAPII Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

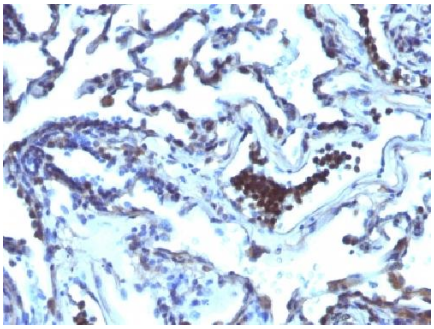
Name	TDP2 {ECO:0000303|PubMed:27060144}
Function	DNA repair enzyme that can remove a variety of covalent adducts from DNA through hydrolysis of a 5'-phosphodiester bond, giving rise to DNA with a free 5' phosphate. Catalyzes the hydrolysis of dead- end complexes between DNA and the topoisomerase 2 (TOP2) active site tyrosine residue. The 5'-tyrosyl

	DNA phosphodiesterase activity can enable the repair of TOP2-induced DNA double-strand breaks/DSBs without the need for nuclease activity, creating a 'clean' DSB with 5'- phosphate termini that are ready for ligation (PubMed:27060144, PubMed:27099339). Thereby, protects the transcription of many genes involved in neurological development and maintenance from the abortive activity of TOP2. Hydrolyzes 5'-phosphoglycolates on protruding 5' ends on DSBs due to DNA damage by radiation and free radicals. Has preference for single-stranded DNA or duplex DNA with a 4 base pair overhang as substrate. Acts as a regulator of ribosome biogenesis following stress. Also has 3'-tyrosyl DNA phosphodiesterase activity, but less efficiently and much slower than TDP1. Constitutes the major if not only 5'-tyrosyl-DNA phosphodiesterase in cells. Also acts as an adapter by participating in the specific activation of MAP3K7/TAK1 in response to TGF-beta: associates with components of the TGF-beta receptor-TRAF6-TAK1 signaling module and promotes their ubiquitination dependent complex formation. Involved in non-canonical TGF-beta induced signaling routes. May also act as a negative regulator of ETS1 and may inhibit NF-kappa-B activation.
Cellular Location	Nucleus. Nucleus, PML body Nucleus, nucleolus. Cytoplasm Note=Localizes to nucleolar cavities following stress; localization to nucleolus is dependent on PML protein.
Tissue Location	Widely expressed (PubMed:10764746). Highly expressed in various brain regions, including the frontal and occipital lobes, the hippocampus, the striatum and the cerebellum (PubMed:24658003).

Background

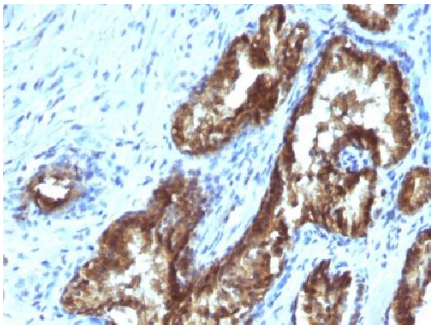
This MAb recognizes a protein of 41kDa, which is identified as TDP2. It is a member of a superfamily of divalent cation-dependent phosphodiesterases. The encoded protein associates with CD40, tumor necrosis factor (TNF) receptor-75 and TNF receptor associated factors (TRAFs), and inhibits nuclear factor-kappa-B activation. This protein has sequence and structural similarities with APE1 endonuclease, which is involved in both DNA repair and the activation of transcription factors. DNA repair enzyme that can remove a variety of covalent adducts from DNA through hydrolysis of a 5'-phosphodiester bond, giving rise to DNA with a free 5' phosphate. Catalyzes the hydrolysis of dead-end complexes between DNA and the topoisomerase 2 (TOP2) active site tyrosine residue. Hydrolyzes 5'-phosphoglycolates on protruding 5' ends on DNA double-strand breaks (DSBs) due to DNA damage by radiation and free radicals. The 5'-tyrosyl DNA phosphodiesterase activity can enable the repair of TOP2-induced DSBs without the need for nuclease activity, creating a 'clean' DSB with 5'-phosphate termini that are ready for ligation. Has also 3'-tyrosyl DNA phosphodiesterase activity, but less efficiently and much slower than TDP1. May also act as a negative regulator of ETS1 and may inhibit nuclear factor-kappa-B activation.

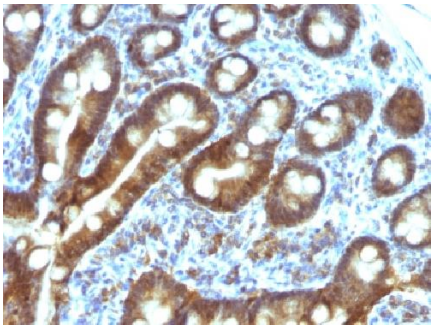
Images



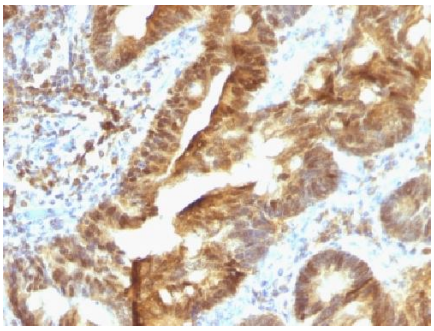
Formalin-paraffin human Lung Carcinoma stained with TDP2 MAb (TDP2/1258)

Formalin-paraffin human Prostate Carcinoma stained with TDP2 MAb (TDP2/1258)





Formalin-paraffin human Duodenal Carcinoma stained with TDP2 MAb (TDP2/1258)



Formalin-paraffin human Colon Carcinoma stained with TDP2 MAb (TDP2/1258)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.