

Anti-TDP2 / EAPII Antibody
Mouse Monoclonal Antibody
Catalog # AH13424

Specification

Anti-TDP2 / EAPII Antibody - Product Information

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

Anti-TDP2 / EAPII Antibody - 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

IHC-P~~N/A
IF~~1:50~200
FC~~1:10~50

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.

Anti-TDP2 / EAPII Antibody - 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

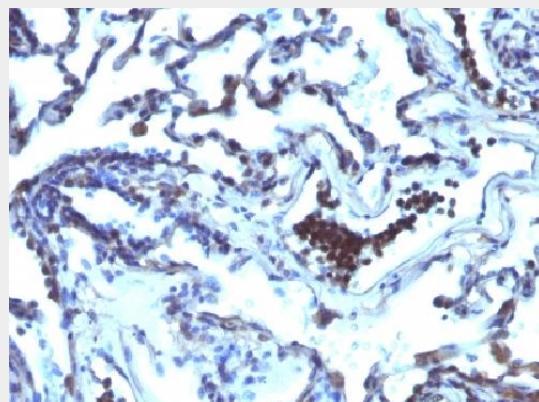
Widely expressed (PubMed:10764746). Highly expressed in various brain regions, including the frontal and occipital lobes, the hippocampus, the striatum and the cerebellum (PubMed:24658003).

Anti-TDP2 / EAPII Antibody - Protocols

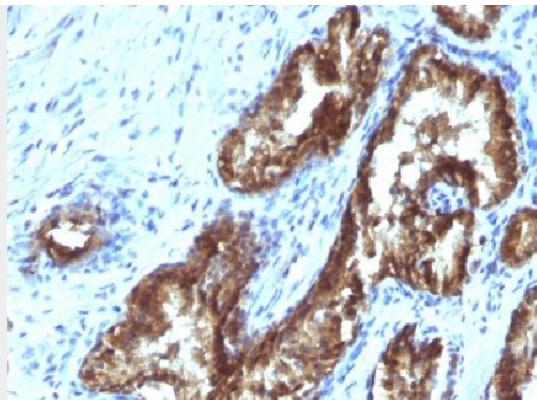
Provided below are standard protocols that you may find useful for product applications.

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

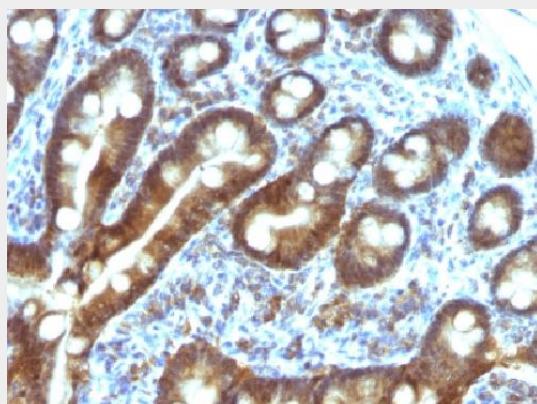
Anti-TDP2 / EAPII Antibody - Images



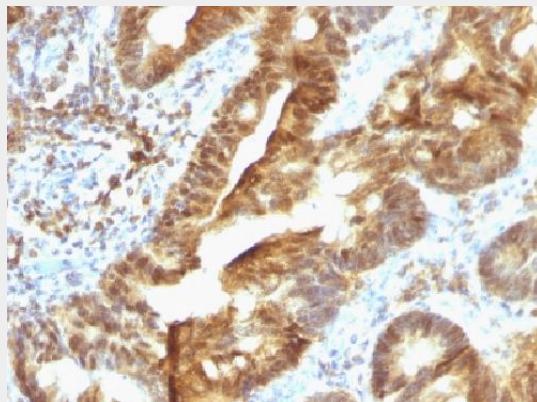
Formalin-paraffin human Lung Carcinoma stained with TDP2 MAb (TDP2/1258)



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)

Anti-TDP2 / EAPII Antibody - 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.