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TDP2 / TTRAP Antibody
Rabbit Polyclonal Antibody
Catalog # ALS16223

Specification

TDP2 / TTRAP Antibody - Product Information

Application	**IF**
Primary Accession	O95551
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**41kDa KDa**

TDP2 / TTRAP Antibody - Additional Information

Gene ID 51567

Other Names
Tyrosyl-DNA phosphodiesterase 2, Tyr-DNA phosphodiesterase 2, hTDP2, 3.1.4.-, 5'-tyrosyl-DNA phosphodiesterase, 5'-Tyr-DNA phosphodiesterase, ETS1-associated protein 2, ETS1-associated protein II, EAPII, TRAF and TNF receptor-associated protein, Tyrosyl-RNA phosphodiesterase, VPg unlinkase, TDP2, EAP2, TTRAP

Target/Specificity
Human TDP2 / TTRAP

Reconstitution & Storage
Aliquot and freeze at -20° C. Avoid freeze-thaw cycles.

Precautions
TDP2 / TTRAP Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

TDP2 / TTRAP 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:27099339, PubMed:27060144). 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. Has also 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).

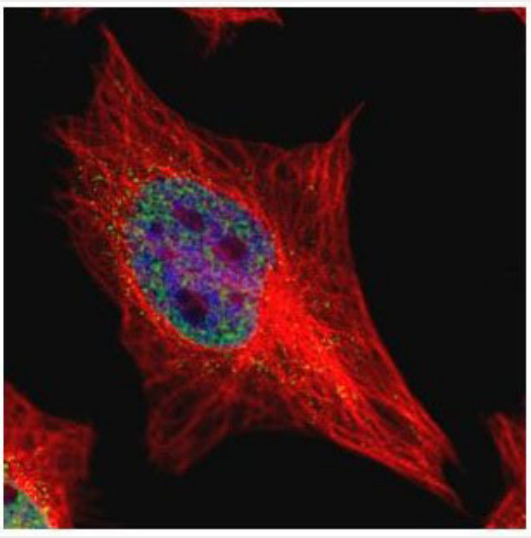
Volume
50 µl

TDP2 / TTRAP 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 Cytomety
- Cell Culture

TDP2 / TTRAP Antibody - Images



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Confocal immunofluorescence analysis (Olympus FV10i) of paraformaldehyde-fixed HeLa, using EAPII...

TDP2 / TTRAP Antibody - Background

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 preference for single-stranded DNA or duplex DNA with a 4 base pair overhang as substrate. Has also 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 a 5'-tyrosyl- RNA phosphodiesterase following picornavirus infection: its activity is hijacked by picornavirus and acts by specifically cleaving the protein-RNA covalent linkage generated during the viral genomic RNA replication steps of a picornavirus infection, without impairing the integrity of viral RNA. 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. Acts as a regulator of ribosome biogenesis following stress.

TDP2 / TTRAP Antibody - References

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