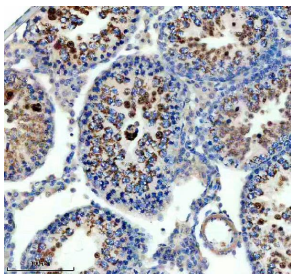
SPRTN Antibody / DNA-dependent metalloprotease SPRTN Antibody (FY13580)

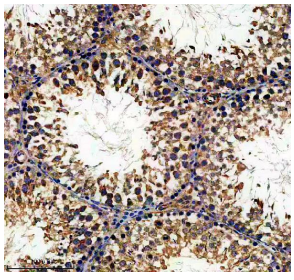
Catalog No.	Formulation	Size
FY13580	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

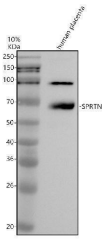
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9H040
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml ELISA: 0.1-0.5 ug/ml
Limitations	Intended solely for research purposes, this SPRTN Antibody / DNA-dependent metalloprotease SPRTN Antibody is not for clinical use.



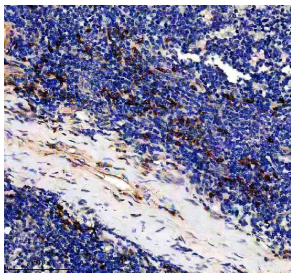
SPRTN Antibody by IHC in mouse testis. Immunohistochemistry of paraffin-embedded mouse testis using DNA-dependent metalloprotease SPRTN Antibody shows brown labeling in subsets of germ cells within seminiferous tubules, including cells adjacent to the tubule lumen. Nuclei are counterstained blue with hematoxylin. Sections underwent heat-mediated antigen retrieval in EDTA buffer at pH 8.0, blocking with 10% goat serum, and primary antibody incubation at 2 ug/mL overnight at 4oC. Detection used a peroxidase-conjugated secondary antibody and DAB chromogen.



SPRTN Antibody by IHC in rat testis. Immunohistochemistry of paraffin-embedded rat testis using DNA-dependent metalloprotease SPRTN Antibody shows prominent brown staining in germ cells of the seminiferous epithelium, with variable labeling among cell layers. Nuclei are counterstained blue with hematoxylin. Sections underwent heat-mediated antigen retrieval in EDTA buffer at pH 8.0, blocking with 10% goat serum, and primary antibody incubation at 2 ug/mL overnight at 4oC. Detection used a peroxidase-conjugated secondary antibody and DAB chromogen.



SPRTN Antibody by WB in human placenta. Western blot analysis using DNA-dependent metalloprotease SPRTN Antibody detects a band near 65 kDa in human placenta tissue lysate (lane 1), above the calculated molecular weight of approximately 55.1 kDa. Published research has demonstrated monoubiquitination of SPRTN, which adds approximately 8.6 kDa and may account for the observed migration difference. A separate band near 90 kDa is also visible; its identity is not established. Reduced lysates containing 30 ug total protein per lane were resolved by 10% SDS-PAGE and transferred to nitrocellulose. The membrane was blocked with 5% nonfat milk, followed by primary antibody incubation at 0.5 ug/mL overnight at 4oC. Bound antibody was detected using an HRP-conjugated secondary antibody and chemiluminescent substrate.



SPRTN Antibody by IHC in human tonsil. Immunohistochemistry of paraffin-embedded human tonsil using DNA-dependent metalloprotease SPRTN Antibody shows scattered brown staining in lymphoid cells and stromal elements among densely blue-stained lymphocyte nuclei. Nuclei are counterstained blue with hematoxylin. Sections underwent heat-mediated antigen retrieval in EDTA buffer at pH 8.0, blocking with 10% goat serum, and primary antibody incubation at 2 ug/mL overnight at 4oC. Detection used a peroxidase-conjugated secondary antibody and DAB chromogen.

Description

SPRTN Antibody / DNA-dependent metalloprotease SPRTN Antibody detects SPRTN, a DNA-dependent metalloprotease that helps resolve DNA-protein crosslinks. These lesions arise when proteins become covalently attached to DNA, creating obstacles to replication and transcription. Unlike ordinary noncovalent DNA-binding interactions, a crosslinked protein cannot simply dissociate from the DNA strand. SPRTN contains a protease domain and additional regions that coordinate its localization and regulation at damaged chromatin. Its proteolytic activity reduces the protein component of crosslinks, facilitating subsequent processing by other DNA repair mechanisms.

DNA-protein crosslinks can form through endogenous metabolic reactions, oxidative stress, and exposure to certain reactive compounds. When a replication fork encounters such a lesion, the attached protein can obstruct polymerase movement and threaten genome stability. SPRTN activity is regulated to limit inappropriate proteolysis while permitting processing of crosslinked substrates. Its function is closely connected to DNA replication, ubiquitin-dependent regulation, and the coordinated actions of replication-associated repair proteins. The enzyme does not simply cut DNA; its defining catalytic activity is proteolysis of protein material associated with DNA. The DNA-dependent metalloprotease SPRTN Antibody designation refers to this same protein target.

Biallelic pathogenic variants in SPRTN cause Ruijs-Aalfs syndrome, a disorder characterized by genomic instability, growth abnormalities, and predisposition to early-onset hepatocellular carcinoma. This disease connection illustrates the importance of removing DNA-protein crosslinks before they interfere with chromosome duplication. Defective SPRTN function can leave persistent barriers to replication and contribute to DNA damage responses. NSJ Bioreagents includes SPRTN among proteins involved in genome maintenance and DNA lesion processing. A SPRTN Antibody provides a means of examining the molecular functions associated with SPRTN.

Explore related research targets in our Cell Biology Antibodies collection.

Application Notes

Working dilutions of the SPRTN Antibody / DNA-dependent metalloprotease SPRTN Antibody may require optimization according to the experimental protocol.

Immunogen

The SPRTN Antibody was generated using e. coli-derived human Spartan/SPRTN recombinant protein (amino acids D23-R344).

Storage

Following reconstitution, the SPRTN Antibody can be kept at 4oC for one month. Aliquot for extended storage at -20oC for up to six months, avoiding repeated freezing and thawing.

Alternate Names

SPRTN antibody, DNA-dependent metalloprotease SPRTN antibody, SprT-like N-terminal domain antibody, C1orf124 antibody, DVC1 antibody, PRO4323 antibody, DDDL1880 antibody

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