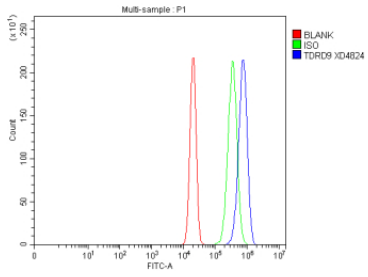
TDRD9 Antibody / Tudor domain-containing protein 9 (FY13128)

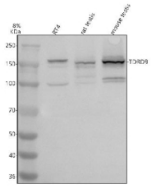
Catalog No.	Formulation	Size
FY13128	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8NDG6
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This TDRD9 antibody is available for research use only.



Flow Cytometry analysis of human RT4 cells using anti-TDRD9 antibody. Overlay histogram showing RT4 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-TDRD9 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of TDRD9 using anti-TDRD9 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human RT4 whole cell lysates, Lane 2: rat testis tissue lysates, Lane 3: mouse testis tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-TDRD9 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. TDRD9 antibody detects a dominant band at ~155-160 kDa in testis lysates, consistent with full-length TDRD9, along with a faint lower band representing a differentially phosphorylated or partially processed form. Additional weaker bands at ~100-110 kDa likely correspond to known proteolytic fragments of the helicase core observed in germ-cellâ€“rich tissues.

Description

TDRD9 antibody detects Tudor domain-containing protein 9, an ATP-dependent RNA helicase that plays a crucial role in the piRNA pathway and germline genome defense. The UniProt recommended name is Tudor domain-containing protein 9 (TDRD9). This protein is a key component of the PIWI-interacting RNA (piRNA) silencing machinery, which suppresses transposable elements during spermatogenesis to maintain genomic integrity.

Functionally, TDRD9 antibody identifies a 1,278-amino-acid protein containing a C-terminal helicase domain and an N-terminal Tudor domain. The Tudor domain recognizes methylated arginine residues on PIWI proteins, while the helicase domain unwinds RNA substrates during piRNA amplification. TDRD9 forms complexes with MIWI2 and other germline-specific proteins to silence retrotransposons through DNA methylation and RNA degradation.

The TDRD9 gene is located on chromosome 14q21.1 and is expressed predominantly in male germ cells during spermatogenesis. It is localized to the cytoplasmic nuage and intermitochondrial cement structures in developing spermatocytes. TDRD9 activity ensures transposon repression and proper germ cell development.

Pathologically, mutations in TDRD9 cause non-obstructive azoospermia and male infertility due to germline arrest and failure of transposon silencing. Dysregulation of TDRD9 or the piRNA pathway may also contribute to germ cell tumors and epigenetic instability. Research using TDRD9 antibody supports studies in germline biology, RNA regulation, and epigenetic silencing.

TDRD9 antibody is validated for western blotting, immunohistochemistry, and immunofluorescence to detect germline helicases and piRNA pathway components. NSJ Bioreagents provides high-quality TDRD9 antibody reagents optimized for reproductive biology and RNA silencing research.

Structurally, Tudor domain-containing protein 9 contains conserved helicase motifs typical of the DEXD/H-box family and a Tudor domain that mediates protein-RNA interactions. This antibody enables investigation of TDRD9's molecular functions in piRNA biogenesis and transposon repression.

Application Notes

Optimal dilution of the TDRD9 antibody should be determined by the researcher.

Immunogen

E.coli-derived human TDRD9 recombinant protein (Position: E71-K1339) was used as the immunogen for the TDRD9 antibody.

Storage

After reconstitution, the TDRD9 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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