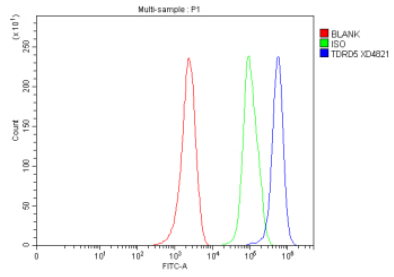
TDRD5 Antibody / Tudor domain-containing protein 5 (FY12065)

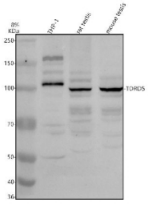
Catalog No.	Formulation	Size
FY12065	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q8NAT2
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This TDRD5 antibody is available for research use only.



Flow Cytometry analysis of MCF-7 cells using anti-TDRD5 antibody. Overlay histogram showing MCF-7 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-TDRD5 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 TDRD5 using anti-TDRD5 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human THP-1 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-TDRD5 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. The expected band size for TDRD5 is at 110 kDa.

Description

TDRD5 antibody detects Tudor domain-containing protein 5, encoded by the TDRD5 gene. Tudor domain-containing protein 5 is a germ cell-specific protein that regulates piRNA pathway function, transposon silencing, and spermatogenesis. TDRD5 antibody provides researchers with a tool for studying reproductive biology, germline epigenetics, and fertility.

Tudor domain-containing protein 5 contains multiple Tudor domains that bind symmetrically dimethylated arginine residues on Piwi-interacting proteins and other components of the piRNA pathway. Research using TDRD5 antibody has shown that it localizes to nuage structures and intermitochondrial cement in germ cells, where it assembles piRNA-protein complexes. These complexes are critical for silencing transposable elements and protecting genome integrity in the germline.

Studies with TDRD5 antibody have revealed that knockout models lacking TDRD5 display impaired spermatogenesis, defective piRNA processing, and male infertility. This demonstrates its essential role in germ cell development. TDRD5 works in concert with other Tudor domain proteins, such as TDRD1 and TDRD9, to coordinate piRNA biogenesis and transposon repression.

Dysfunction of Tudor domain-containing protein 5 has been associated with infertility and germline genome instability. Research using TDRD5 antibody has shown that disruption of piRNA regulation allows mobilization of retrotransposons, resulting in DNA damage and germ cell loss. These findings emphasize its protective function in the germline.

TDRD5 antibody is widely applied in immunohistochemistry, immunofluorescence, and western blotting. Immunohistochemistry reveals expression in testis, immunofluorescence demonstrates localization in nuage and germ granules, and western blotting quantifies protein levels during germ cell development. These methods make TDRD5 antibody indispensable in reproductive biology research.

By supplying validated TDRD5 antibody reagents, NSJ Bioreagents supports studies into germline epigenetics, piRNA pathways, and fertility. Detection of Tudor domain-containing protein 5 provides researchers with insight into how germ cell proteins maintain genome stability and reproductive capacity.

Application Notes

Optimal dilution of the TDRD5 antibody should be determined by the researcher.

Immunogen

E.coli-derived human TDRD5 recombinant protein (Position: M1-E722) was used as the immunogen for the TDRD5 antibody.

Storage

After reconstitution, the TDRD5 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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