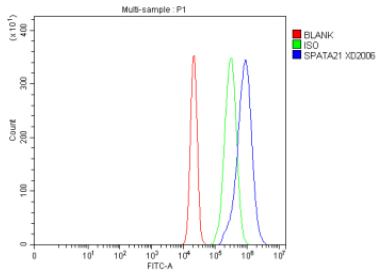
SPATA21 Antibody / Spermatogenesis-associated protein 21 (FY12629)

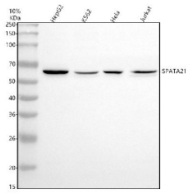
Catalog No.	Formulation	Size
FY12629	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
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	Q7Z572
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This SPATA21 antibody is available for research use only.



Flow Cytometry analysis of RT4 cells using anti-SPATA21 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-SPATA21 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 SPATA21 using anti-SPATA21 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HepG2 whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: human Jurkat whole cell 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-SPATA21 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. Western blot probed with anti-SPATA21 shows a major band at ~60 kDa, higher than the predicted ~52 kDa, consistent with phosphorylated forms of SPATA21 that migrate more slowly on SDS-PAGE.

Description

SPATA21 antibody detects Spermatogenesis-associated protein 21, a testis-enriched protein implicated in sperm maturation, motility, and flagellar assembly. SPATA21 plays a critical role in the later stages of spermatogenesis and is essential for normal sperm structure and fertilization competence. The SPATA21 antibody is widely used in reproductive biology and developmental studies to explore germ cell differentiation and fertility regulation.

SPATA21 is encoded by the SPATA21 gene located on human chromosome 1p36.33. The protein is approximately 678 amino acids in length and localizes to the cytoplasm and flagellum of developing spermatids. It interacts with axonemal and mitochondrial sheath proteins, supporting assembly of sperm tail components and providing energy efficiency during motility.

The SPATA21 antibody detects an 80 kilodalton band by western blot and exhibits strong staining in testicular germ cells under immunofluorescence. Functional studies suggest SPATA21 participates in mitochondrial tethering to the flagellum and regulation of axoneme structure, contributing to sperm morphology and motility. Defects in SPATA21 expression lead to abnormal sperm development, reduced motility, and male infertility.

SPATA21 may also play roles in germ cell apoptosis and stress responses during spermatogenesis. It interacts with chaperones and cytoskeletal proteins to stabilize protein complexes under oxidative stress. Comparative studies show high conservation across species, emphasizing its evolutionary significance in reproductive biology.

Because of its specialized role in sperm development, SPATA21 serves as a valuable marker for testicular function and reproductive competence. NSJ Bioreagents provides a validated SPATA21 antibody optimized for its applications, supporting investigation of germ cell biology, sperm maturation, and male reproductive health.

Application Notes

Optimal dilution of the SPATA21 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SPATA21 recombinant protein (Position: Q65-Q444) was used as the immunogen for the SPATA21 antibody.

Storage

After reconstitution, the SPATA21 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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