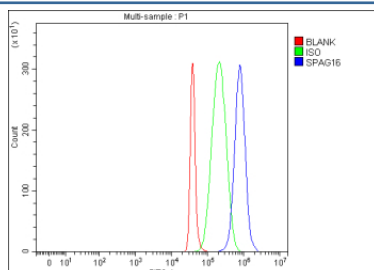


SPAG16 Antibody / Sperm-associated antigen 16 (FY12458)

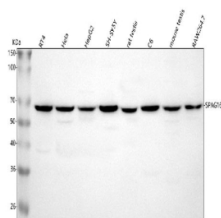
Catalog No.	Formulation	Size
FY12458	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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 Na ₂ HPO ₄ .
UniProt	Q8N0X2
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SPAG16 antibody is available for research use only.



Flow Cytometry analysis of SH-SY5Y cells using anti-SPAG16 antibody. Overlay histogram showing SH-SY5Y 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-SPAG16 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 (Red line) was also used as a control.



Western blot analysis of SPAG16 using anti-SPAG16 antibody. Lane 1: human RT4 whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: human SH-SY5Y whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: rat C6 whole cell lysates, Lane 7: mouse testis tissue lysates, Lane 8: mouse Raw264.7 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-SPAG16 antibody at 0.5 ug/ml overnight at 4°C, 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 enhanced chemiluminescent. SPAG16 (~71 kDa predicted) was detected at ~65 kDa, consistent with expression of the shorter SPAG16S isoform predominating in somatic and ciliated cells rather than the testis-specific SPAG16L form.

Description

SPAG16 antibody recognizes Sperm-associated antigen 16, a structural and regulatory protein essential for the function of motile cilia and sperm flagella. SPAG16 is a component of the central apparatus of the axoneme, where it contributes to the coordination of dynein-driven motility. The SPAG16 antibody is widely used in studies of ciliogenesis, flagellar motility, and reproductive biology, as well as in research on primary ciliary dyskinesia and male infertility.

SPAG16 is encoded by the SPAG16 gene on human chromosome 2q34. Two main isoforms are produced: SPAG16L (long form), expressed predominantly in the testis and required for sperm motility, and SPAG16S (short form), expressed in ciliated tissues such as the trachea and ependyma. The long isoform localizes to the axonemal central pair microtubule complex, while the short isoform resides in the nucleus where it regulates gene transcription during spermatogenesis. Both isoforms are evolutionarily conserved, reflecting a fundamental role in ciliary function across species.

Research employing the SPAG16 antibody has identified the protein as critical for maintaining the integrity of the central apparatus in motile cilia. Knockout or mutation of Spag16 in mouse models results in male infertility, impaired ciliary beating, and hydrocephalus due to defective cerebrospinal fluid flow. Western blot analysis typically detects bands ranging from 70~95 kDa, depending on isoform and tissue type. Immunofluorescence reveals localization along flagella and cilia, consistent with its axonemal function.

SPAG16 interacts with other axonemal proteins such as SPAG6, SPAG17, and components of the radial spoke complex, forming an essential molecular network for rhythmic ciliary movement. Its nuclear isoform (SPAG16S) regulates expression of genes required for sperm maturation and differentiation. NSJ Bioreagents supplies a validated SPAG16 antibody optimized for western blot, immunofluorescence, and immunohistochemistry, providing a reliable reagent for elucidating the molecular architecture of cilia and flagella, as well as mechanisms underlying ciliary disorders and reproductive defects.

Application Notes

Optimal dilution of the SPAG16 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SPAG16 recombinant protein (Position: D28-F619) was used as the immunogen for the SPAG16 antibody.

Storage

After reconstitution, the SPAG16 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.

