

CatSperδ (A-7): sc-393749

BACKGROUND

CatSper (cation channel, sperm associated proteins) are ion transport proteins located on the surface of sperm cells in the principal piece of the sperm tail. Vital to sperm motility, fertilization and cAMP-mediated calcium influx in sperm, CatSper contain a single, six-transmembrane-spanning segment and exhibit the voltage-dependent Ca^{2+} channel four-repeat structure. CatSper proteins are believed to assemble into a heterotetrameric complex, forming an alkalization-activated Ca^{2+} -selective channel. Mutations in any of the genes encoding CatSper family proteins can result in male infertility. CatSperδ (cation channel sperm-associated protein subunit δ) is a 798 amino acid single-pass type I membrane protein that is located in the principal piece of the sperm tail. CatSperδ exists as two alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 19.

REFERENCES

1. Jin, J., et al. 2007. Catsper3 and Catsper4 are essential for sperm hyper-activated motility and male fertility in the mouse. *Biol. Reprod.* 77: 37-44.
2. Xia, J., et al. 2007. CATSPER channel-mediated Ca^{2+} entry into mouse sperm triggers a tail-to-head propagation. *Biol. Reprod.* 77: 551-559.
3. Li, H.G., et al. 2007. Expression of CatSper family transcripts in the mouse testis during post-natal development and human ejaculated spermatozoa: relationship to sperm motility. *Mol. Hum. Reprod.* 13: 299-306.
4. Qi, H., et al. 2007. All four CatSper ion channel proteins are required for male fertility and sperm cell hyperactivated motility. *Proc. Natl. Acad. Sci. USA* 104: 1219-1223.

CHROMOSOMAL LOCATION

Genetic locus: CATSPERD (human) mapping to 19p13.3.

SOURCE

CatSperδ (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 544-575 within an extracellular domain of CatSperδ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CatSperδ (A-7) is available conjugated to agarose (sc-393749 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393749 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393749 PE), fluorescein (sc-393749 FITC), Alexa Fluor® 488 (sc-393749 AF488), Alexa Fluor® 546 (sc-393749 AF546), Alexa Fluor® 594 (sc-393749 AF594) or Alexa Fluor® 647 (sc-393749 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393749 AF680) or Alexa Fluor® 790 (sc-393749 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393749 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

CatSperδ (A-7) is recommended for detection of CatSperδ of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CatSperδ siRNA (h): sc-97656, CatSperδ shRNA Plasmid (h): sc-97656-SH and CatSperδ shRNA (h) Lentiviral Particles: sc-97656-V.

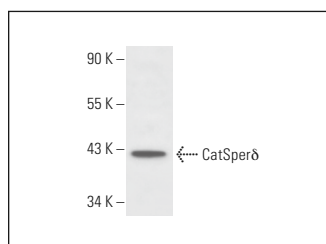
Molecular Weight of CatSperδ isoform 1/2: 90/40 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

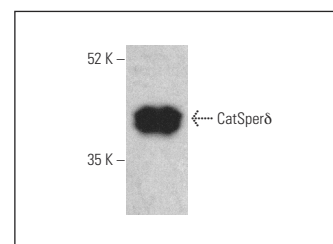
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CatSperδ (A-7): sc-393749. Western blot analysis of CatSperδ expression in Jurkat whole cell lysate.



CatSperδ (A-7) HRP: sc-393749 HRP. Direct western blot analysis of CatSperδ expression in Jurkat whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.