

CatSper2 (H-60): sc-98539

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. CatSper are vital to sperm motility, fertilization and cAMP-mediated calcium influx in sperm. There are four CatSper proteins in mammalian sperm, namely CatSper (or CatSper1), CatSper2, CatSper3 and CatSper4. CatSper proteins 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. CatSper4 plays an important role in the hyperactivated motility of sperm cells, a process that is required in the preparation of sperm for fertilization.

REFERENCES

1. Quill, T.A., et al. 2001. A voltage-gated ion channel expressed specifically in spermatozoa. *Proc. Natl. Acad. Sci. USA* 98: 12527-12531.
2. Zhang, D., et al. 2006. Association of CatSper1 or -2 with $Ca_v3.3$ leads to suppression of T-type calcium channel activity. *J. Biol. Chem.* 281: 22332-22341.
3. Jin, J., et al. 2007. CatSper3 and CatSper4 are essential for sperm hyperactivated motility and male fertility in the mouse. *Biol. Reprod.* 77: 37-44.
4. 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.
5. Liu, J., et al. 2007. CatSper β , a novel transmembrane protein in the CatSper channel complex. *J. Biol. Chem.* 282: 18945-18952.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: CATSPER2 (human) mapping to 15q15.3; Catsper2 (mouse) mapping to 2 E5.

SOURCE

CatSper2 (H-60) is a rabbit polyclonal antibody raised against amino acids 471-530 mapping at the C-terminus of CatSper2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

CatSper2 (H-60) is recommended for detection of CatSper2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

CatSper2 (H-60) is also recommended for detection of CatSper2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CatSper2 siRNA (h): sc-72809, CatSper2 siRNA (m): sc-72810, CatSper2 shRNA Plasmid (h): sc-72809-SH, CatSper2 shRNA Plasmid (m): sc-72810-SH, CatSper2 shRNA (h) Lentiviral Particles: sc-72809-V and CatSper2 shRNA (m) Lentiviral Particles: sc-72810-V.

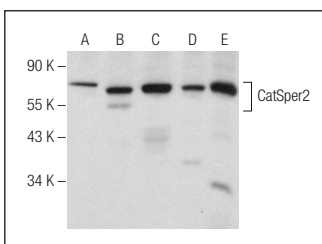
Molecular Weight of CatSper2: 72 kDa.

Positive Controls: Hs 181 Tes whole cell lysate: sc-364779, Hep G2 cell lysate: sc-2227 or MCF7 whole cell lysate: sc-2206.

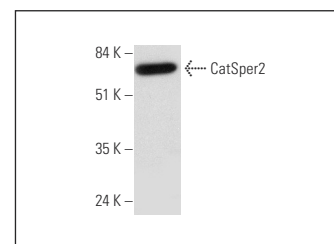
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CatSper2 (H-60): sc-98539. Western blot analysis of CatSper2 expression in 293T (A), Hep G2 (B), MCF7 (C) and Y79 (D) whole cell lysates and mouse testis tissue extract (E).



CatSper2 (H-60): sc-98539. Western blot analysis of CatSper2 expression in Hs 181 Tes whole cell lysate.

RESEARCH USE

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