SANTA CRUZ BIOTECHNOLOGY, INC.

CatSper (H-300): sc-33153



BACKGROUND

CatSper is an ion transport protein located on the surface of sperm cells. CatSper (for cation channel of sperm) is vital to cAMP-mediated calcium influx in sperm, sperm motility and fertilization. The gene that encodes CatSper maps to human chromosome 11q13.1. The 686 amino acid protein is a single, 6-transmembrane-spanning protein of the voltage-dependent Ca²⁺ channel 4-repeat structure and is expressed exclusively in the testis. In CatSper^{-/-} sperm, neither cAMP nor cGMP elicit a significant Ca²⁺ influx in both mutant and wild-type sperm. CatSper is localized to the sperm flagellum and CatSper^{-/-} mice show sluggish and less directed movements. CatSper is required to penetrate the egg but is not required for egg activation.

REFERENCES

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- 2. Ren, D., et al. 2001. A sperm ion channel required for sperm motility and male fertility. Nature 413: 603-609.
- Carlson, A.E., et al. 2003. CatSper1 required for evoked Ca²⁺ entry and control of flagellar function in sperm. Proc. Natl. Acad. Sci. USA 100: 14864-14868.
- Lobley, A., et al. 2003. Identification of human and mouse CatSper3 and CatSper4 genes: characterisation of a common interaction domain and evidence for expression in testis. Reprod. Biol. Endocrinol. 1: 53.
- Nikpoor, P., et al. 2004. CatSper gene expression in postnatal development of mouse testis and in subfertile men with deficient sperm motility. Hum. Reprod. 19: 124-128.
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- 7. LocusLink Report (LocusID: 117144). http://www.ncbi.nlm.nih.gov/ LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: CATSPER1 (human) mapping to 11q13.1; Catsper1 (mouse) mapping to 19 A.

SOURCE

CatSper (H-300) is a rabbit polyclonal antibody raised against amino acids 481-780 mapping at the C-terminus of CatSper of human origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

CatSper (H-300) is recommended for detection of CatSper of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 CatSper siRNA (h): sc-42375, CatSper siRNA (m): sc-42376, CatSper shRNA Plasmid (h): sc-42375-SH, CatSper shRNA Plasmid (m): sc-42376-SH, CatSper shRNA (h) Lentiviral Particles: sc-42375-V and CatSper shRNA (m) Lentiviral Particles: sc-42376-V.

Molecular Weight of CatSper: 82 kDa.

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

CatSper (H-300): sc-33153. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

 Li, H., et al. 2009. Inhibition of human sperm function and mouse fertilization *in vitro* by an antibody against cation channel of sperm 1: the contraceptive potential of its transmembrane domains and pore region. Fertil. Steril. 92: 1141-1146.

RESEARCH USE

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

PROTOCOLS

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