

CatSper (M-20): sc-21182

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 Ca^{2+} channel 4-repeat structure and is expressed exclusively in the testis. In CatSper^{-/-} sperm, neither cAMP nor cGMP elicit a significant Ca^{2+} 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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3. Online Mendelian Inheritance in Man, OMIM[™]. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606389. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Carlson, A.E., et al. 2003. CatSper1 required for evoked Ca^{2+} entry and control of flagellar function in sperm. *Proc. Natl. Acad. Sci. USA* 100: 14864-14868.
5. 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.
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CHROMOSOMAL LOCATION

Genetic locus: Catsper1 (mouse) mapping to 19 A.

SOURCE

CatSper (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CatSper of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-21182 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CatSper (M-20) is recommended for detection of CatSper of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CatSper (M-20) is also recommended for detection of CatSper in additional species, including porcine.

Suitable for use as control antibody for CatSper siRNA (m): sc-42376, CatSper shRNA Plasmid (m): sc-42376-SH 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.