SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

[Primary Antibody]

Rabbit Anti-CATSPER4 antibody

Catalog Number: SL6422R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	CATSPER4
Immunogen:	KLH conjugated synthetic peptide derived from human CATSPER4: 101-200/472
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB=1:500-2000 IHC-P=1:100-500 IHC-F=1:100-500 ICC/IF=1:100-500 IF=1:100-500 ELISA=1:5000-10000 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	(predicted: Human)
Predicted MW.:	57kDa
Subcellular Location:	The cell membrane
Background:	CatSpers (cation channel, sperm associated proteins) are ion transport proteins located on the surface of sperm cells in the principal piece of the sperm tail. CatSpers 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 Ca2+ channel four-repeat structure. CatSper proteins are believed to assemble into a heterotetrameric complex, forming an alkalinization-activated Ca2+-selective channel. Mutations in any of the genes encoding CatSper

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	family proteins can result in male infertility. CatSper3 plays an important role in the hyperactivated motility of sperm cells, a process that is required in the preparation of sperm for fertilization. **Function:** Voltage-gated calcium channel that plays a central role in calcium-dependent physiological responses essential for successful fertilization, such as sperm hyperactivation, acrosome reaction and chemotaxis towards the oocyte. Activated by extracellular progesterone and prostaglandins following the sequence: progesterone > PGF1-alpha = PGE1 > PGA1 > PGE2 >> PGD2. The primary effect of progesterone activation is to shift voltage dependence towards more physiological, negative membrane potentials; it is not mediated by metabotropic receptors and second messengers. Sperm capacitation enhances the effect of progesterone by providing additional negative shift. Also activated by the elevation of intracellular pH. **Subunit:** Heterotetramer; possibly composed of CATSPER1, CATSPER2, CATSPER3 and CATSPER4 (Potential). Component of the CatSper complex. Interacts with CATSPER1. **Subcellular Location:** Cell projection, cilium, flagellum membrane; Multi-pass membrane protein. Note=Specifically located in the principal piece of sperm tail. **Tissue Specificity:** Testis-specific. **Similarity:** Belongs to the cation channel sperm-associated (TC 1.A.1.19) family. **Database links:** **Entrez Gene:** 378807 Human Omim: 609121 Human **SwissProt:** Q7RTX7 Human **Unigene:** 123532 Human

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