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AKAP4 Antibody

Catalog # ASC11850

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q5JQC9
Other Accession	NP_003877, 21493037
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	94477
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	AKAP4 antibody can be used for detection of AKAP4 by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	8852
Other Names	A-kinase anchor protein 4, AKAP-4, A-kinase anchor protein 82 kDa, AKAP 82, hAKAP82, Major sperm fibrous sheath protein, HI, Protein kinase A-anchoring protein 4, PRKA4, AKAP4 (HGNC:374), AKAP82
Target/Specificity	AKAP4; AKAP4 antibody is human specific. At least three isoforms are known to exist; this antibody will detect the two longest isoforms.
Reconstitution & Storage	AKAP4 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	AKAP4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AKAP4 (HGNC:374)
Synonyms	AKAP82
Function	Major structural component of sperm fibrous sheath (PubMed: 9822690). Plays a role in sperm motility (PubMed:34415320, PubMed:9822690).
Cellular Location	Cell projection, cilium, flagellum. Note=Localizes to the principle piece of the sperm flagellum.
Tissue Location	Testis specific; only expressed in round spermatids.

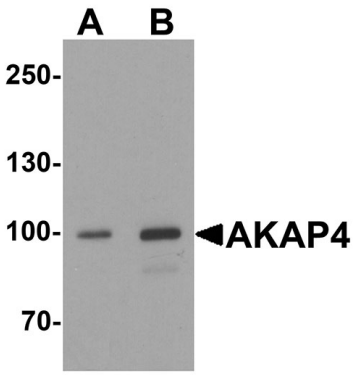
Background

The A-kinase anchor proteins (AKAPs) are a group of structurally diverse proteins, which have the common function of binding to the regulatory subunit of protein kinase A (PKA) and confining the holoenzyme to discrete locations within the cell (1). AKAP4, also known as hAKAP82, is a major sperm fibrous sheath protein that localizes to the entire length of the flagellum of human sperm (2). It has been suggested that AKAP4 plays multiple roles in sperm motility and regulation of signal transduction pathways (2). AKAP4 has also been postulated to be a potential biomarker for breast cancer (3).

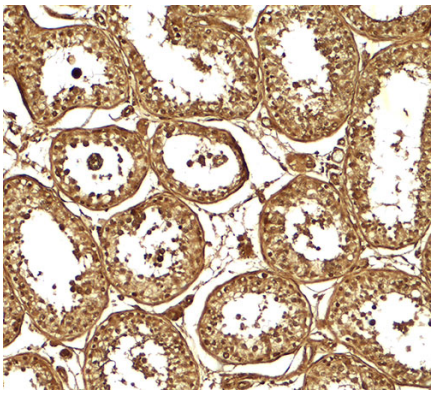
References

Carnegie GK, Means CK, and Scott JD. A-kinase anchoring proteins: from protein complexes to physiology and disease. IUBMB 2009; 61:394-406.
Turner RM, Johnson LR, Haig-Ladewig L, et al. An X-linked gene encodes a major human sperm fibrous sheath protein, hAKAP82. Genomic organization, protein kinase A-RII binding, and distribution of the precursor in the sperm tail. J. Biol. Chem. 1998; 273:32135-41.
Saini S, Jagadish N, Gupta A, et al. A novel cancer testis antigen, A-kinase anchor protein 4 (AKAP4) is a potential biomarker for breast cancer. PLoS One 2013; 8:e57095.

Images

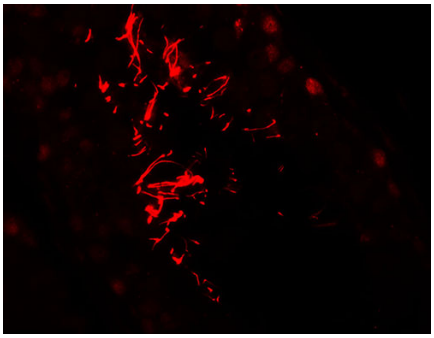


Western blot analysis of AKAP4 in human testis tissue lysate with AKAP4 antibody at (A) 1 and (B) 2 µg/ml.



Immunohistochemistry of AKAP4 in human testis tissue with AKAP4 antibody at 5 µg/ml.

Immunofluorescence of AKAP4 in human testis tissue with AKAP4 antibody at 20 µg/ml.



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