

Anti-AKAP4 Mouse Monoclonal Antibody (clone 7E10)

Ref. 4BDX-1602

Biomolecule

Anti-AKAP4 mouse monoclonal antibody

Clone

7E10

Size

100 µg/100 µL

Formulation

Solution in PBS at 1 mg/mL

Storage

+4°C / -20°C

Immunogen

Peptide

Specificity

C-ter

Cross-reactivity

Human, Horse, Bull, Mouse, Ram, Rat

Immunoglobulin type

Human AKAP4 specific mouse IgG

Isotype

IgG2a Kappa

Applications

WB, IHC, IF, EM, FCM

• **Preparation**

This monoclonal antibody was produced from a mouse hybridoma resulting from a mouse immunized with a peptide covering the C-terminus of human AKAP4 protein sequence (Uniprot ref. Q5JQC9) which is 90% homologous between mammals.

• **Purity**

Mouse monoclonal antibodies 7E10 was purified by protein A/G affinity chromatography. Purity > 90%, as determined by SDS-PAGE and visualized by silver staining.

• **Concentration**

The measured concentration of the purified Anti-AKAP4 was 1 mg/mL as determined using a total protein concentration assay.

• **Specificity**

Determined by its ability to recognise the C-terminus human AKAP4 protein. The monoclonal antibody (clone 7E10) recognizes both the pro-form of AKAP4 (110 kDa / 854 AA) and the AKAP4 (82 kDa / 665 AA) but does not react with the prodomain (21 kDa). It reacts also with AKAP4 proteins from horse, bull, mouse, ram and rat semens.

• **Storage**

Store at +4°C for short term use (1-2 weeks) - Store at -20°C for long term use.

• **Applications**

Recommended concentrations of use are:

Western-blot: 0.1 µg/mL

IHC / IF: 1 µg/mL

• General information

Human AKAP4 (A-Kinase Anchor Protein 4) protein is encoded by a single gene located on chromosome X. The proAKAP4 (854 amino acids) is processed into mature AKAP4 by proteolytic cleavage of the amino-terminal prodomain made of 188 amino acids. AKAP4 and its precursor proAKAP4, are major components of the pig, horse, bull, mouse, rat, ram, dog, rabbit and human sperm fibrous sheath of the sperm flagellum. AKAP4 protein belongs to the family of A-kinase anchor proteins (AKAPs) all sharing a common function of binding to the regulatory subunit of protein kinase A (PKA) and confining the PKA holoenzyme to discrete locations within the cell. AKAP4 is also named AKAP-4, AKAP82 (A-Kinase Anchor Protein 82 kDa), PRKA4 (Protein Kinase A Anchoring Protein 4), HI, CT99 (Cancer/Testis Antigen 99), FSC1 (Fibrous sheath component 1) or P82. AKAP4 plays a major role in sperm motility and capacitation (Miki et al. 2002), that are both essential for oocyte fertilization.

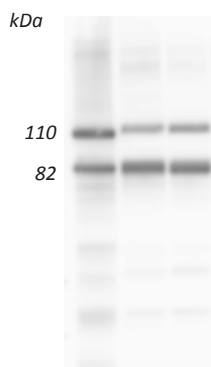


• References

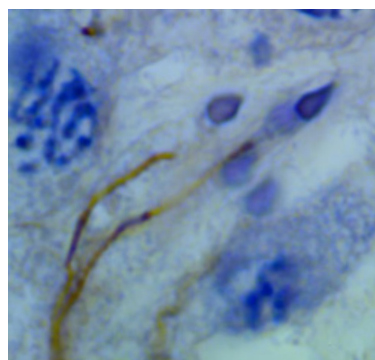
- Delehedde M, Bloomaert D, Jouy N, Scabello J, Miersman H, Franck T, Serteyn D, Mitchell V and Ser-geant S (2018) *Concentration of proAKAP4 as a pertinent read-out of sperm quality in mammals*. Animal Reproduction Science. Vol. 194: 24.
- Sergeant N, Jumeau F, Eddarkaoui S, Sigala J, Gbete Dossou F, Delehedde M, Buee L, Yvoz JF, Mitchell V (2016) *Investigating proteomic methods and tools to assess sperm quality*. Animal Reproduction Science Vol. 169: 125-126.
- Miki K, Willis WD, Brown PR, Goulding EH, Fulcher KD, Eddy EM (2002) *Targeted disruption of the Akap4 gene causes defects in sperm flagellum and motility*. Dev Biol. Vol. 248: 331-342.

• Application examples

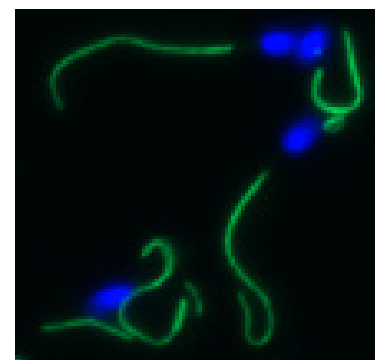
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Western-blotting of human spermatozoa



Immunohistochemistry of human testis



Immunofluorescence of human spermatozoa

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