www.4biodx.com
contact@4biodx.com

Anti-ProAKAP4 Mouse Monoclonal Antibody (clone 6F12)

Ref. 4BDX-1701

Biomolecule
Anti-proAKAP4 mouse monoclonal antibody

Clone
6F12

Size
100 µg/100 µL

Formulation
Solution in PBS at 1 mg/mL

Storage
+4°C / -20°C

Immunogen
Peptide

Specificity
AKAP4 prodomain

Cross-reactivity
Human, Horse, Bull, Mouse, Ram, Rat

Immunoglobulin type
Human AKAP4 specific mouse IgG

Isotype
IgG2a Kappa

Applications
WB, IF, IHC, FCM

- **Preparation**

This antibody was produced from a mouse hybridoma resulting from a mouse immunized with a peptide covering the prodomain of human AKAP4 protein sequence (Uniprot ref. Q5JQC9) which is 70% homologous between mammals. The anti-proAKAP4 (clone 6F12) antibody epitope is 100% homologous between mammals.

- **Purity**

Mouse monoclonal antibodies 6F12 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 prodomain of human AKAP4 protein. This monoclonal antibody (clone 6F12) only recognizes the pro-form of AKAP4 (110 kDa / 854 AA), the prodomain (21 kDa) and does not react with the AKAP4 (82 kDa / 665 AA). 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: 5 µg/mL

• General information

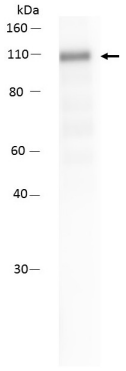
Human AKAP4 (A-Kinase Anchor Protein 4) protein is encoded by a single gene located on chromosome X. The proAKAP4 (854 amino acids) is processed into mature AKAP4 by proteolytic cleavage of the amino-terminal prodomain made of 188 amino acids. AKAP4 and its precursor proAKAP4, are major components of 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

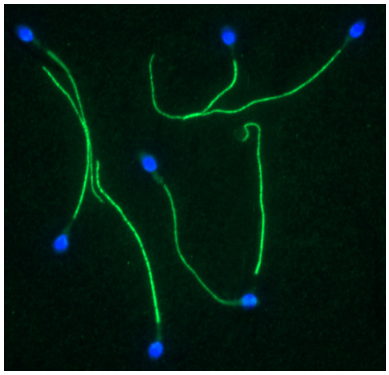
- Delehedde M, Bloomaert D, Jouy N, Scabello J, Miersman H, Franck T, Serteyn D, Mitchell V and Sergeant S (2018) *Concentration of proAKAP4 as a pertinent read-out of sperm quality in mammals.* Animal Reproduction Science. Vol. 194: 24.
- Sergeant N, Jumeau F, Eddarkaoui S, Sigala J, Gbete Dossou F, 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

The monoclonal antibody (clone 6F12) only recognizes the pro-form of AKAP4 (110 kDa / 854 AA), the prodomain (21 kDa) and does not react with the AKAP4 (82 kDa / 665 AA).



Western-blotting of human sperm protein extracts



Immunofluorescence of human spermatozoa

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commercial@4biodx.com

www.4biodx.com

(33) 320 622 079

SPQI Company
1 place de Verdun, 59045 Lille, France

RCS Lille Metropole 820 961 514 – Code APE 7219Z
VAT : FR 40 820 961 514 000 16

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