

Anti-AKAP4 Mouse Monoclonal Antibody (clone 10F8)

Ref. 4BDX-1805

Biomolecule

Anti-AKAP4 mouse
monoclonal antibody

Clone

10F8

Size

100 µg in 100 µL

Formulation

Solution in PBS at 1 mg/mL

Storage

+4°C / -20°C

Immunogen

Peptide

Specificity

AKAP4 C-terminus

Cross-reactivity

Dog, Rabbit, Pig, Ram, Cat,
Goat

Immunoglobulin type

Human AKAP4 specific
mouse IgG

Isotype

IgG2a Kappa

Applications

WB, IF, IHC, FCM, EM

• **Preparation**

This antibody was obtained from a mouse hybridoma resulting from a mouse immunized with a peptide covering the human AKAP4 protein sequence (Uniprot ref. Q5JQC9) which is 70% homologous between mammals.

• **Purity**

Mouse monoclonal antibodies 10F8 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 antibodies was at 1 mg/mL as determined using a total protein concentration assay.

• **Specificity**

Determined by its ability to recognize the C-terminus of human AKAP4 protein. This monoclonal antibody (clone 10F8) recognizes both the precursor of AKAP4 called proAKAP4 (110 kDa / 854 AA) and the mature AKAP4 (82 kDa / 665 AA). This clone reacts also with AKAP4 polypeptides from dog, rabbit, pig, ram, cat and goat semen.

• **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

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- **General information**

Human AKAP4 (A-Kinase Anchor Protein 4) protein is encoded by a single gene located on chromosome X. The proAKAP4 polypeptide is converted into mature AKAP4 by proteolytic cleavage of the amino-terminal prodomain made of 188 amino acids. AKAP4 and its precursor proAKAP4 are both 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 Anchoring Protein 4), HI, CT99 (Cancer/Testis Antigen 99), FSC1 (Fibrous sheath component 1) or P82. AKAP4 plays a major role in flagellum formation, sperm motility, capacitation and fecundation.

- **References**

Sergeant N, Briand-Amirat L, Bencharif D and Delehedde M (2019) The sperm specific protein proAKAP4 as an innovative marker to evaluate sperm quality and fertility. Journal of Dairy & Veterinary Sciences. Vol. 11:01-19.

Delehedde M, Carracedo S, Selleslagh M, Eddarkaoui S, Amirat-Briand L and Sergeant N (2019) ProAKAP4 polypeptide as a biomarker of sperm functionality and male fertility disorders. Int J Gynecol and Reprod Sci. Vol. 2(1):13-19.

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.

- **More details:**

The monoclonal antibody (clone 10F8) recognizes both the full-length of AKAP4 called proAKAP4, (110 kDa / 854 AA) and the AKAP4 (82 kDa / 665 AA). This C-Terminus antibody does not recognize the prodomain of 21 kDa released after proAKAP4 conversion into AKAP4.

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