

## 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 produced from a mouse hybridoma resulting from a mouse immunized with a peptide covering the 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 1 mg/mL as determined using a total protein concentration assay.

### • **Specificity**

Determined by its ability to recognize the C-terminus of AKAP4 proteins. This monoclonal antibody (clone 10F8) recognizes both proAKAP4 (110 kDa / 854 AA) and the AKAP4 (82 kDa / 665 AA). This clone reacts also with AKAP4 proteins 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

## • 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 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.



## • Main References

Carracedo S, Loyens A, Eddarkaoui S, Serateyn D, Malo C, Skidmore L, Briand-Amirat L, Barbotin AL, Maurage CA, Delehedde M and Sergeant N (2020) The sperm specific proAKAP4 polypeptide exhibited conserved functions, localizations and metabolism among mammals. *Animal Reproduction Science*. Vol. 220 :106448 - P88.

Riesco M, Anel-Lopez L, Neila-Montero M, Palacin-Martinez C, Montes-Garrido R, Alvarez M, de Paz P, Anel L (2020) ProAKAP4 as Novel Molecular Marker of Sperm Quality in Ram: An Integrative Study in Fresh, Cooled and Cryopreserved Sperm. *Biomolecules*. 10(7):1046.

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.

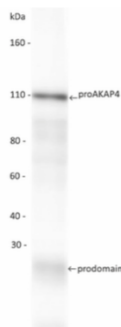
Dewulf Q, Briand-Amirat L, Eddarkaoui S, Chambonnet F, Delehedde M and Sergeant N (2019) The effects of freeze-thaw cycles and of storage time on the stability of proAKAP4 polypeptide in raw sperm samples: implications for semen analysis assessment in breeding activities. *Journal of Dairy & Veterinary Sciences*. Vol. 13(3):1-7.

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.

Sergeant N, Jumeau F, Eddarkaoui S, Sigala J, Dossou GF, Delehedde M, Buee L, Yvoz JF and Mitchell V (2016) Investigating proteomic methods and tools to assess sperm quality. *Animal Reproduction Science*. Vol. 169:99-135.

## • 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.



Western blotting  
of Human sperm extract



**TO PLACE AN ORDER**



contact@4biodx.com



www.4biodx.com



(33) 680 223 199



SPQI S.A.S  
82 rue Jeanne d'Arc, 59000 Lille, France

RCS Lille Metropole 820 961 514 – Code APE 7219Z VAT : FR 40 820 961 514 000 24