

Annexin VII (A-1): sc-17815

BACKGROUND

The Annexin family of calcium-binding proteins is composed of at least ten mammalian genes. It is characterized by a conserved core domain, which binds to phospholipids in a Ca^{2+} -dependent manner, and a unique amino terminal region, which may confer binding specificity. The Annexin family has been implicated as regulators of such diverse processes as ion-flux, endocytosis and exocytosis, and cellular adhesion. When overexpressed in A-431 cells, Annexin VI causes a partial reversal of the transformed phenotype. It has been hypothesized that growth-dependent posttranslational modifications of Annexins are required for proper subcellular localization. Annexin VII, also referred to as synexin, is located at the plasma membrane in normal muscle tissue. However, in muscle samples from patients suffering from Duchenne's muscular dystrophy, Annexin VII, along with Annexins IV and VI, are released into the cytoplasm and later, as the disease progresses, into the extracellular space. Two forms of Annexin XI, designated A and B, have been identified. Transfection of COS-7 cells with Annexin XI-A, but not Annexin XI-B, causes formation of Annexin XI-associated vesicles.

REFERENCES

1. Smith, P.D. and Moss, S.E. 1994. Structural evolution of the Annexin supergene family. *Trends Genet.* 10: 241-246.
2. Edwards, H.C. and Moss, S.E. 1995. Functional and genetic analysis of Annexin VI. *Mol. Cell. Biochem.* 149-150: 293-299.
3. Waisman, D.M. 1995. Annexin II tetramer: structure and function. *Mol. Cell. Biochem.* 149-150: 301-322.

CHROMOSOMAL LOCATION

Genetic locus: ANXA7 (human) mapping to 10q22.2; Anxa7 (mouse) mapping to 14 A3.

SOURCE

Annexin VII (A-1) is a mouse monoclonal antibody raised against amino acids 9-119 mapping near the C-terminus of Annexin VII of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Annexin VII (A-1) is available conjugated to agarose (sc-17815 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17815 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17815 PE), fluorescein (sc-17815 FITC), Alexa Fluor[®] 488 (sc-17815 AF488), Alexa Fluor[®] 546 (sc-17815 AF546), Alexa Fluor[®] 594 (sc-17815 AF594) or Alexa Fluor[®] 647 (sc-17815 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-17815 AF680) or Alexa Fluor[®] 790 (sc-17815 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Annexin VII (A-1) is recommended for detection of Annexin VII of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

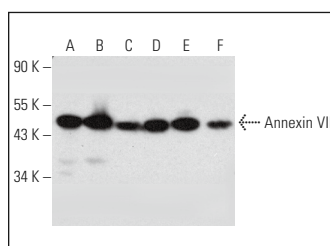
Suitable for use as control antibody for Annexin VII siRNA (h): sc-29690, Annexin VII siRNA (m): sc-29691, Annexin VII shRNA Plasmid (h): sc-29690-SH, Annexin VII shRNA Plasmid (m): sc-29691-SH, Annexin VII shRNA (h) Lentiviral Particles: sc-29690-V and Annexin VII shRNA (m) Lentiviral Particles: sc-29691-V.

Molecular Weight of Annexin VII muscle atypic isoform: 47 kDa.

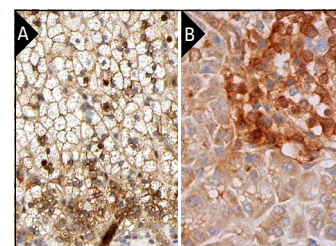
Molecular Weight of Annexin VII normal skeletal muscle isoform: 51 kDa.

Positive Controls: A549 cell lysate: sc-2413, WI-38 whole cell lysate: sc-364260 or Neuro-2A whole cell lysate: sc-364185.

DATA



Annexin VII (A-1): sc-17815. Western blot analysis of Annexin VII expression in A549 (A), WI-38 (B), Neuro-2A (C), C3H/10T1/2 (D), KNRK (E) and A-10 (F) whole cell lysates.



Annexin VII (A-1): sc-17815. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing membrane, cytoplasmic and nuclear staining of cortical cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing weak cytoplasmic staining of exocrine glandular cells and nuclear and cytoplasmic staining of Islets of Langerhans (B).

SELECT PRODUCT CITATIONS

1. Shibata, H., et al. 2008. Identification of Alix-type and non-Alix-type ALG-2-binding sites in human phospholipid scramblase 3: differential binding to an alternatively spliced isoform and amino acid-substituted mutants. *J. Biol. Chem.* 283: 9623-9632.
2. Ning, J., et al. 2022. ZBM-H-induced activation of GRP78 ATPase promotes apoptosis via Annexin A7 in A549 lung cancer cells. *J. Cell. Biochem.* 123: 798-806.
3. Patil, S.S., et al. 2023. RNA-binding is an ancient trait of the Annexin family. *Front. Cell Dev. Biol.* 11: 1161588.

RESEARCH USE

For research use only, not for use in diagnostic procedures.