

Annexin IV (D-2): sc-46693

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. Annexin family members have been implicated as regulators of such diverse processes as ion flux, endocytosis and exocytosis and cellular adhesion. For example, the crystal structure of Annexin III has suggested a hydrophilic amino terminus with possible Ca^{2+} channel activity. Similarly, Annexin V has ion channel properties. Annexin IV, also referred to as endonexin, functions to regulate Cl^- flux by mediating calmodulin kinase II (CaMKII) activity and Annexin V has been shown to regulate PKC activity.

REFERENCES

1. Smith, P.D., et al. 1994. Structural evolution of the Annexin supergene family. *Trends Genet.* 10: 241-246.
2. Chan, H.C., et al. 1994. Annexin IV inhibits calmodulin-dependent protein kinase II-activated chloride conductance. A novel mechanism for ion channel regulation. *J. Biol. Chem.* 269: 32464-32468.
3. Rothhut, B., et al. 1995. Inhibitory effect of Annexin V on protein kinase C activity in mesangial cell lysates. *Eur. J. Biochem.* 232: 865-872.
4. Mailliard, W.S., et al. 1996. Calcium-dependent binding of S100C to the N-terminal domain of Annexin I. *J. Biol. Chem.* 271: 719-725.

CHROMOSOMAL LOCATION

Genetic locus: ANXA4 (human) mapping to 2p13.3; Anxa4 (mouse) mapping to 6 D1.

SOURCE

Annexin IV (D-2) is a mouse monoclonal antibody raised against amino acids 1-319 representing full length Annexin IV of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Annexin IV (D-2) is available conjugated to agarose (sc-46693 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-46693 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-46693 PE), fluorescein (sc-46693 FITC), Alexa Fluor[®] 488 (sc-46693 AF488), Alexa Fluor[®] 546 (sc-46693 AF546), Alexa Fluor[®] 594 (sc-46693 AF594) or Alexa Fluor[®] 647 (sc-46693 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-46693 AF680) or Alexa Fluor[®] 790 (sc-46693 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

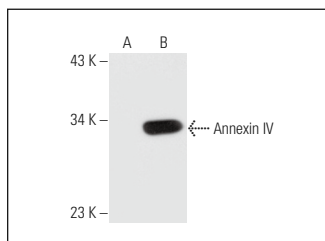
Annexin IV (D-2) is recommended for detection of Annexin IV of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 IV siRNA (h): sc-29684, Annexin IV siRNA (m): sc-29685, Annexin IV shRNA Plasmid (h): sc-29684-SH, Annexin IV shRNA Plasmid (m): sc-29685-SH, Annexin IV shRNA (h) Lentiviral Particles: sc-29684-V and Annexin IV shRNA (m) Lentiviral Particles: sc-29685-V.

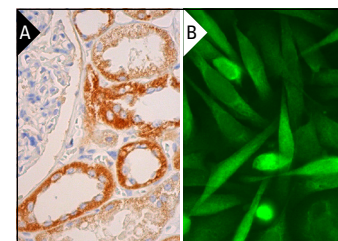
Molecular Weight of Annexin IV: 34 kDa.

Positive Controls: Annexin IV (m): 293T Lysate: sc-118433, Caki-1 cell lysate: sc-2224 or RAW 309 Cr.1 cell lysate: sc-3814.

DATA



Annexin IV (D-2): sc-46693. Western blot analysis of Annexin IV expression in non-transfected: sc-117752 (A) and mouse Annexin IV transfected: sc-118433 (B) 293T whole cell lysates.



Annexin IV (D-2): sc-46693. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (A). Annexin IV (D-2) Alexa Fluor[®] 488: sc-46693 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic and nuclear localization. Blocked with UltraCruz[®] Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

1. Toyama, A., et al. 2012. Proteomic characterization of ovarian cancers identifying Annexin-A4, phosphoserine aminotransferase, cellular retinoic acid-binding protein 2, and serpin B5 as histology-specific biomarkers. *Cancer Sci.* 103: 747-755.
2. Peiris, D., et al. 2015. Identification of O-linked glycoproteins binding to the lectin helix pomatia agglutinin as markers of metastatic colorectal cancer. *PLoS ONE* 10: e0138345.
3. Liu, J., et al. 2020. p53 and ANXA4/NF κ B p50 complexes regulate cell proliferation, apoptosis and tumor progression in ovarian clear cell carcinoma. *Int. J. Mol. Med.* 46: 2102-2114.
4. Gill, N.B., et al. 2023. Ginsenoside Rc from panax ginseng ameliorates palmitate-induced UB/OC-2 cochlear cell injury. *Int. J. Mol. Sci.* 24: 7345.

RESEARCH USE

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