

Annexin V (A-2): sc-393669

BACKGROUND

The annexin family of calcium-binding proteins is composed of at least ten mammalian genes and is characterized by a conserved core domain, which binds phospholipids in a Ca²⁺-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 Ca²⁺ 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. Annexin V is ubiquitously expressed at high levels in tissues and cells grown in tissue culture, while Annexin VIII exhibits a more limited distribution. Where co-expressed in the same tissues, Annexin VIII is often expressed at a 100-fold lower level than Annexin V. However, Annexin VIII is preferentially expressed in acute promyelocytic leukemia (APL) cells, which may relate to its role in hematopoietic cell differentiation.

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. Reutelingsperger, C.P., et al. 1994. Differential tissue expression of Annexin VIII in human. *FEBS Lett.* 349: 120-124.
4. Liu, J.H., et al. 1994. Expression of the Annexin VIII gene in acute promyelocytic leukemia. *Leuk. Lymphoma* 13: 381-386.
5. 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.
6. 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: ANXA5 (human) mapping to 4q27; Anxa5 (mouse) mapping to 3 B.

SOURCE

Annexin V (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 298-319 C-terminus of Annexin V of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-393669 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

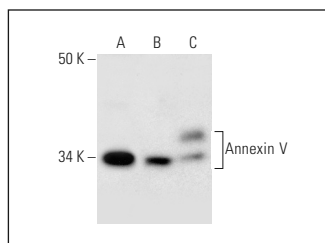
Annexin V (A-2) is recommended for detection of Annexin V of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 V siRNA (h): sc-29686, Annexin V siRNA (m): sc-29687, Annexin V siRNA (r): sc-270107, Annexin V shRNA Plasmid (h): sc-29686-SH, Annexin V shRNA Plasmid (m): sc-29687-SH, Annexin V shRNA Plasmid (r): sc-270107-SH, Annexin V shRNA (h) Lentiviral Particles: sc-29686-V, Annexin V shRNA (m) Lentiviral Particles: sc-29687-V and Annexin V shRNA (r) Lentiviral Particles: sc-270107-V.

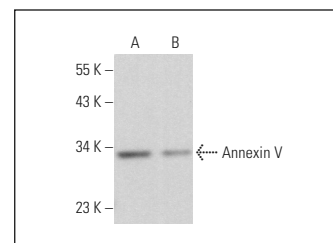
Molecular Weight of Annexin V: 36 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, KNRK whole cell lysate: sc-2214 or NIH/3T3 whole cell lysate: sc-2210.

DATA



Annexin V (A-2): sc-393669. Western blot analysis of Annexin V expression in RAW 264.7 (A), KNRK (B) and NIH/3T3 (C) whole cell lysates.



Annexin V (A-2): sc-393669. Western blot analysis of Annexin V expression in RAW 264.7 (A) and M1 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tong, L., et al. 2021. Prognostic value of serum exosomal AHCY expression in hepatitis B-induced liver cirrhosis. *Front. Med.* 8: 777452.
2. Na, W., et al. 2021. Aesculetin accelerates osteoblast differentiation and matrix-vesicle-mediated mineralization. *Int. J. Mol. Sci.* 22: 12391.

STORAGE

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

RESEARCH USE

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



See **Annexin V (H-3): sc-74438** for Annexin V antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.