SANTA CRUZ BIOTECHNOLOGY, INC.

Annexin IV (H-2): sc-374254

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.
5. Favier-Perron, B., et al. 1996. The high-resolution crystal structure of human Annexin III shows subtle differences with Annexin V. Biochemistry 35: 1740-1744.
6. Liemann, S., et al. 1996. Structural and functional characterization of the voltage sensor in the ion channel human Annexin V. J. Mol. Biol. 258: 555-561.

CHROMOSOMAL LOCATION

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

SOURCE

Annexin IV (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 107-139 within an internal region of Annexin IV of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-374254 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 (H-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 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 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.

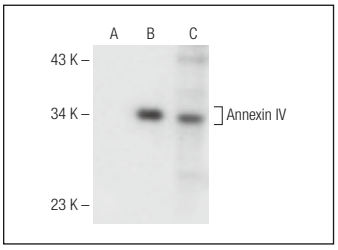
Molecular Weight of Annexin IV: 34 kDa.

Positive Controls: Annexin IV (m): 293T Lysate: sc-118433, Hep G2 cell lysate: sc-2227 or RAW 264.7 whole cell lysate: sc-2211.

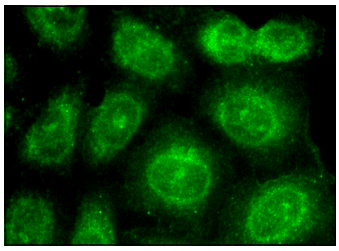
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Annexin IV (H-2): sc-374254. Western blot analysis of Annexin IV expression in non-transfected 293T: sc-117752 (**A**), mouse Annexin IV transfected 293T: sc-118433 (**B**) and Hep G2 (**C**) whole cell lysates.



Annexin IV (H-2): sc-374254. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.