

Annexin II (3D5): sc-47696

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 Ca^{2+} -dependent manner and a unique amino-terminal region which may confer binding specificity. The interaction between these proteins and biological membranes has led to the hypothesis that they are involved in cellular trafficking processes such as endocytosis, exocytosis and cellular adhesion. Annexin I, alternatively referred to as lipocortin, has been implicated as a mediator of the anti-inflammatory response produced by glucocorticoids and as an inhibitor of $cPLA_2$, a potent mediator of inflammation. Annexin II, also called p36, exists as a monomer or as a heterotetramer, complexed with the S-100-related protein p11. This complex is termed Calpactin I. In the tetrameric form, Annexin II is an efficient substrate of PKC family and Src pp60.

CHROMOSOMAL LOCATION

Genetic locus: ANXA2 (human) mapping to 15q22.2; Anxa2 (mouse) mapping to 9 C.

SOURCE

Annexin II (3D5) is a mouse monoclonal antibody raised against whole native Annexin proteins from bone tissues 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 II (3D5) is available conjugated to agarose (sc-47696 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-47696 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47696 PE), fluorescein (sc-47696 FITC), Alexa Fluor[®] 488 (sc-47696 AF488), Alexa Fluor[®] 546 (sc-47696 AF546), Alexa Fluor[®] 594 (sc-47696 AF594) or Alexa Fluor[®] 647 (sc-47696 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-47696 AF680) or Alexa Fluor[®] 790 (sc-47696 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Annexin II (3D5) is recommended for detection of Annexin II of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Annexin II siRNA (h2): sc-270151, Annexin II siRNA (m): sc-29683, Annexin II shRNA Plasmid (h2): sc-270151-SH, Annexin II shRNA Plasmid (m): sc-29683-SH, Annexin II shRNA (h2) Lentiviral Particles: sc-270151-V and Annexin II shRNA (m) Lentiviral Particles: sc-29683-V.

Molecular Weight of Annexin II monomer: 36 kDa.

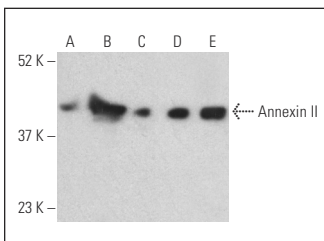
Molecular Weight of Annexin II heterotetramer: 90 kDa.

Positive Controls: ECV304 cell lysate: sc-2269, MCF7 whole cell lysate: sc-2206 or A-431 whole cell lysate: sc-2201.

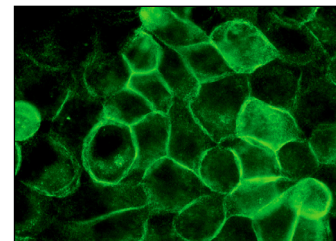
STORAGE

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

DATA



Annexin II (3D5): sc-47696. Western blot analysis of Annexin II expression in MCF7 (A), HUV-EC-C (B), WI-38 (C), ECV304 (D) and A-431 (E) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



Annexin II (3D5): sc-47696. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

- González-Reyes, S., et al. 2009. Role of Annexin A2 in cellular entry of rabbit vesivirus. *J. Gen. Virol.* 90: 2724-2730.
- Klement, K., et al. 2012. Accumulation of Annexin A5 at the nuclear envelope is a biomarker of cellular aging. *Mech. Ageing Dev.* 133: 508-522.
- Myrvang, H.K., et al. 2013. Protein interactions between surface Annexin A2 and S100A10 mediate adhesion of breast cancer cells to microvascular endothelial cells. *FEBS Lett.* 587: 3210-3215.
- Bouwman, F.G., et al. 2014. Increased β -oxidation with improved glucose uptake capacity in adipose tissue from obese after weight loss and maintenance. *Obesity* 22: 819-827.
- Moreau, K., et al. 2015. Transcriptional regulation of Annexin A2 promotes starvation-induced autophagy. *Nat. Commun.* 6: 8045.
- Wang, Y.S., et al. 2018. Identification of natural compounds targeting Annexin A2 with an anti-cancer effect. *Protein Cell* 9: 568-579.
- Wang, Y.S., 2019. Ginsenoside compound K inhibits nuclear factor- κ B by targeting Annexin A2. *J. Ginseng Res.* 43: 452-459.
- Wang, X., et al. 2020. α -synuclein promotes progression of Parkinson's disease by upregulating autophagy signaling pathway to activate NLRP3 inflammasome. *Exp. Ther. Med.* 19: 931-938.
- Díaz-Díaz, A., et al. 2020. Heat shock protein 90 chaperone regulates the E3 ubiquitin-ligase Hakai protein stability. *Cancers* 12: 215.
- Wang, Y.S., et al. 2021. (20S) ginsenoside Rh2 inhibits STAT3/VEGF signaling by targeting Annexin A2. *Int. J. Mol. Sci.* 22: 9289.

RESEARCH USE

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

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