SANTA CRUZ BIOTECHNOLOGY, INC.

group V PLA_2 (3G1): sc-18828

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phospholipase A_2s (PLA_2s) constitute a family of esterases that hydrolyze the sn-2-acyl ester bond in glycerophospholipid molecules. These enzymes are generally calcium-dependent and have been found both intra- and extracellularly. By hydrolyzing the sn-2 bond in glycerophospholipids, PLA_2s release fatty acids. One such fatty acid, arachidonic acid, generates the substrates for the initiation of the arachidonic acid cascade that produces various eicosanoids (i.e., prostaglandins, leukotrienes and thromboxanes), many of which are potent mediators of inflammation. PLA_2s include both the relatively low molecular weight group I, group II and group V enzymes and the form known as cytoplasmic PLA_2 ($cPLA_2$). $cPLA_2$ is present in macrophages, and hydrolyzes the sn-2 fatty acyl ester bond of phospholipids to produce a free fatty acid and a lysophospholid.

CHROMOSOMAL LOCATION

Genetic locus: PLA2G5 (human) mapping to 1p36.13; Pla2g5 (mouse) mapping to 4 D3.

SOURCE

group V PLA_2 (3G1) is a mouse monoclonal antibody raised against W79A mutant of group V PLA_2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for neutralizing and blocking PLA_2 activity, sc-18828 L, 200 µg/0.1 ml.

group V PLA_2 (3G1) is available conjugated to either phycoerythrin (sc-18828 PE) or fluorescein (sc-18828 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

RESEARCH USE

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

APPLICATIONS

group V PLA_2 (3G1) is recommended for detection of group V PLA_2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for group V PLA_2 siRNA (h): sc-44023, group V PLA_2 siRNA (m): sc-62825, group V PLA_2 siRNA (r): sc-270119, group V PLA_2 shRNA Plasmid (h): sc-44023-SH, group V PLA_2 shRNA Plasmid (m): sc-62825-SH, group V PLA_2 shRNA Plasmid (r): sc-270119-SH, group V PLA_2 shRNA (h) Lentiviral Particles: sc-44023-V, group V PLA_2 shRNA (m) Lentiviral Particles: sc-62825-V and group V PLA_2 shRNA (r) Lentiviral Particles: sc-270119-V.

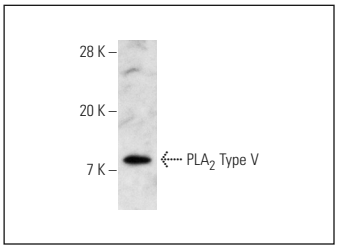
Molecular Weight of group V PLA_2: 14 kDa.

Positive Controls: A-10 cell lysate: sc-3806.

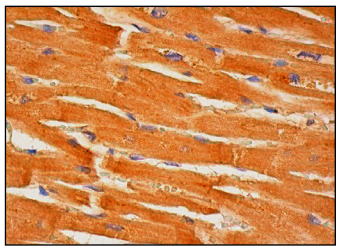
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PLA_2 Type V (3G1): sc-18828. Western blot analysis of human recombinant PLA_2 Type V.



group V PLA_2 (3G1): sc-18828. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Lu, Y., et al. 2004. Absolute quantification of specific proteins in complex mixtures using visible isotope-coded affinity tags. Anal. Chem. 76: 4104-4111.
2. Szymczak-Pajor, I., et al. 2020. Wide-range effects of $1,25(OH)_2D_3$ on group 4A phospholipases is related to nuclear factor κB and phospholipase-A_2 activating protein activity in mast cells. Int. Arch. Allergy Immunol. 181: 56-70.

STORAGE

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

PROTOCOLS

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