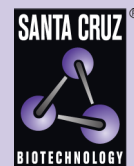


cPLA<sub>2</sub> (4-4B-3C): sc-454

The Power to Question

## BACKGROUND

Phospholipase A<sub>2</sub> (PLA<sub>2</sub>S) 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<sub>2</sub>S 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<sub>2</sub>S include both the relatively low molecular weight type I and type II enzymes and the form known as cytoplasmic PLA<sub>2</sub> (cPLA<sub>2</sub>). cPLA<sub>2</sub> is present in the cytosol of various cells and tissues including platelets, macrophages and monoblasts; and preferentially hydrolyzes the sn-2 position of phospholipid molecules, releasing free arachidonate.

## CHROMOSOMAL LOCATION

Genetic locus: PLA2G4A (human) mapping to 1q31.1; Pla2g4a (mouse) mapping to 1 G1.

## SOURCE

cPLA<sub>2</sub> (4-4B-3C) is a mouse monoclonal antibody raised against amino acids 1-216 of cPLA<sub>2</sub> of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cPLA<sub>2</sub> (4-4B-3C) is available conjugated to agarose (sc-454 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-454 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-454 PE), fluorescein (sc-454 FITC), Alexa Fluor® 488 (sc-454 AF488), Alexa Fluor® 546 (sc-454 AF546), Alexa Fluor® 594 (sc-454 AF594) or Alexa Fluor® 647 (sc-454 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-454 AF680) or Alexa Fluor® 790 (sc-454 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

cPLA<sub>2</sub> (4-4B-3C) is recommended for detection of cytosolic PLA<sub>2</sub> 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<sup>6</sup> cells).

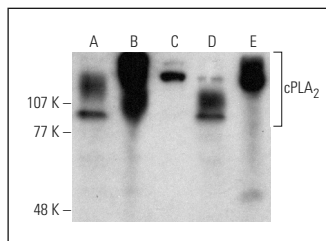
Suitable for use as control antibody for cPLA<sub>2</sub> siRNA (h): sc-29280, cPLA<sub>2</sub> siRNA (m): sc-35098, cPLA<sub>2</sub> shRNA Plasmid (h): sc-29280-SH, cPLA<sub>2</sub> shRNA Plasmid (m): sc-35098-SH, cPLA<sub>2</sub> shRNA (h) Lentiviral Particles: sc-29280-V and cPLA<sub>2</sub> shRNA (m) Lentiviral Particles: sc-35098-V.

Molecular Weight of cPLA<sub>2</sub>: 85-114 kDa.

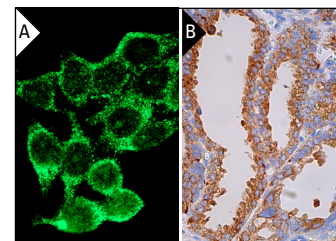
## STORAGE

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

## DATA



cPLA<sub>2</sub> (4-4B-3C) HRP: sc-454 HRP. Direct western blot analysis of cPLA<sub>2</sub> expression in RAW 264.7 (A), 3T3-L1 (B), NRK (C), NIH/3T3 (D) and WI-38 (E) whole cell lysates.



cPLA<sub>2</sub> (4-4B-3C): sc-454. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Bunt, G., et al. 1997. Ultrastructural localization of cPLA<sub>2</sub> in unstimulated and EGF/A23187 stimulated fibroblasts. *J. Cell Sci.* 110: 2449-2459.
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- Makiyama, T., et al. 2012. C2-di-ethyl-ceramide-1-phosphate as an inhibitor of group IVA cytosolic phospholipase A2. *Eur. J. Pharmacol.* 697: 144-151.
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- Yao, M., et al. 2015. Targeting of cytosolic phospholipase A2α impedes cell cycle re-entry of quiescent prostate cancer cells. *Oncotarget* 6: 34458-34474.
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- Giordanella, G., et al. 2017. Sulindexide prevents activation of the PLA<sub>2</sub>/Cox-2/VEGF inflammatory pathway in human retinal endothelial cells by blocking the effect of AGE/RAGE. *Biochem. Pharmacol.* 142: 145-154.
- Suzuki, S., et al. 2018. Knockout of ceramide kinase aggravates pathological and lethal responses in mice with experimental colitis. *Biol. Pharm. Bull.* 41: 797-805.

## RESEARCH USE

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