

# cPLA<sub>2</sub> (H-12): sc-376636

## BACKGROUND

Phospholipase A<sub>2</sub>s (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.

## REFERENCES

1. Henrikson, R.L., et al. 1977. Amino acid sequence of phospholipase A<sub>2</sub>-α from the venom of *Crotalus adamanteus*. A new classification of phospholipases A<sub>2</sub> based upon structural determinants. *J. Biol. Chem.* 252: 4913-4921.
2. Leslie, C.C., et al. 1988. Properties and purification of an arachidonyl hydrolyzing phospholipase A<sub>2</sub> from a macrophage cell line, RAW 264.7. *Biochem. Biophys. Acta* 963: 476-492.
3. Clark, J.D., et al. 1990. Purification of a 110 kDa cytosolic phospholipase A<sub>2</sub> from the human monocytic cell U937. *Proc. Natl. Acad. Sci. USA* 87: 7708-7712.

## CHROMOSOMAL LOCATION

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

## SOURCE

cPLA<sub>2</sub> (H-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 721-752 at the C-terminus of cPLA<sub>2</sub> of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>3</sub> lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376636 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.

## RESEARCH USE

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

## APPLICATIONS

cPLA<sub>2</sub> (H-12) is recommended for detection of cytosolic PLA<sub>2</sub> 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 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.

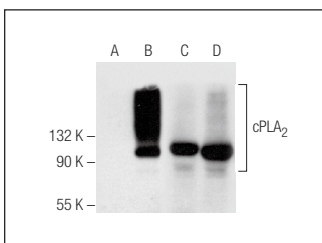
Molecular Weight of cPLA<sub>2</sub>: 85-114 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or cPLA<sub>2</sub> (m): 293T Lysate: sc-119430.

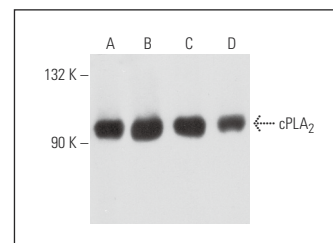
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



cPLA<sub>2</sub> (H-12): sc-376636. Western blot analysis of cPLA<sub>2</sub> expression in non-transfected 293T: sc-117752 (A), mouse cPLA<sub>2</sub> transfected 293T: sc-119430 (B), HeLa (C) and NIH/3T3 (D) whole cell lysates.



cPLA<sub>2</sub> (H-12): sc-376636. Western blot analysis of cPLA<sub>2</sub> expression in RPMI2650 (A), RAW 264.7 (B), 3T3-L1 (C) and NRK (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Palavicini, J.P., et al. 2017. Oligomeric Amyloid-β induces MAPK-mediated activation of brain cytosolic and calcium-independent phospholipase A<sub>2</sub> in a spatial-specific manner. *Acta Neuropathol. Commun.* 5: 56.



See **cPLA<sub>2</sub> (4-4B-3C): sc-454** for cPLA<sub>2</sub> antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.