SANTA CRUZ BIOTECHNOLOGY, INC.

$cPLA_2$ (H-12): sc-376636

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 eico-sanoids (i.e. prostaglandins, leukotrienes and thromboxanes), many of which are potent mediators of inflammation. PLA_2s include both the relatively low molecular weight type I and type II enzymes and the form known as cytoplasmic PLA_2 ($cPLA_2$). $cPLA_2$ 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. Heinrikson, R.L., et al. 1977. Amino acid sequence of phospholipase A_2-α from the venom of *Crotalus adamanteus*. A new classification of phospholipases A_2 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_2 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_2 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

$cPLA_2$ (H-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 721-752 at the C-terminus of $cPLA_2$ of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 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

$cPLA_2$ (H-12) is recommended for detection of cytosolic PLA_2 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 $cPLA_2$ siRNA (h): sc-29280, $cPLA_2$ siRNA (m): sc-35098, $cPLA_2$ shRNA Plasmid (h): sc-29280-SH, $cPLA_2$ shRNA Plasmid (m): sc-35098-SH, $cPLA_2$ shRNA (h) Lentiviral Particles: sc-29280-V and $cPLA_2$ shRNA (m) Lentiviral Particles: sc-35098-V.

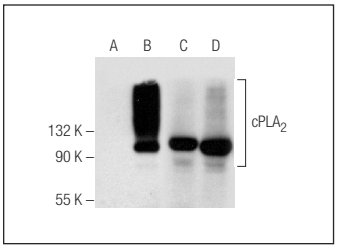
Molecular Weight of $cPLA_2$: 85-114 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or $cPLA_2$ (m): 293T Lysate: sc-119430.

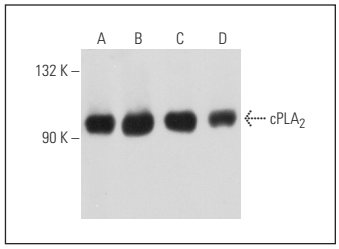
RECOMMENDED SUPPORT REAGENTS

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



$cPLA_2$ (H-12): sc-376636. Western blot analysis of $cPLA_2$ expression in non-transfected 293T: sc-117752 (**A**), mouse $cPLA_2$ transfected 293T: sc-119430 (**B**), HeLa (**C**) and NIH/3T3 (**D**) whole cell lysates.



$cPLA_2$ (H-12): sc-376636. Western blot analysis of $cPLA_2$ 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_2 in a spatial-specific manner. Acta Neuropathol. Commun. 5: 56.

CONJUGATES

See **$cPLA_2$ (4-4B-3C): sc-454** for $cPLA_2$ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.