SANTA CRUZ BIOTECHNOLOGY, INC.

$cPLA_2$ (C-20): sc-1724

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 ($cPLA_2$). This form of PLA_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: PLA2G4A (human) mapping to 1q31.1; Pla2g4a (mouse) mapping to 1 G1.

SOURCE

$cPLA_2$ (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of $cPLA_2$ of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1724 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$cPLA_2$ (C-20) is recommended for detection of cytosolic 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

$cPLA_2$ (C-20) is also recommended for detection of cytosolic PLA_2 in additional species, including equine, canine and bovine.

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.

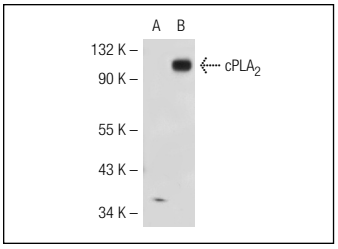
STORAGE

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

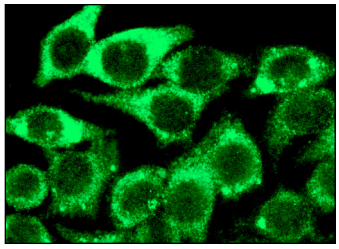
RESEARCH USE

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

DATA



$cPLA_2$ (C-20): sc-1724. Western blot analysis of $cPLA_2$ expression in non-transfected: sc-117752 (**A**) and mouse $cPLA_2$ transfected: sc-119430 (**B**) 293T whole cell lysates.



$cPLA_2$ (C-20): sc-1724. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

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3. Zhang, S., et al. 2008. Expression of cytosolic phospholipase A_2 and cyclooxygenase 2 and their significance in human oral mucosae, dysplasias and squamous cell carcinomas. ORL J. Otorhinolaryngol. Relat. Spec. 70: 242-248.
4. Herbert, S.P., et al. 2009. Activation of cytosolic phospholipase A_2-α as a novel mechanism regulating endothelial cell cycle progression and angiogenesis. J. Biol. Chem. 284: 5784-5796.
5. Regan-Klapisz, E., et al. 2009. Golgi-associated $cPLA_2\alpha$ regulates endothelial cell-cell junction integrity by controlling the trafficking of transmembrane junction proteins. Mol. Biol. Cell 20: 4225-4234.
6. Hastings, A.D., et al. 2009. Association with actin mediates the EGTA-resistant binding of cytosolic phospholipase A_2-α to the plasma membrane of activated platelets. Cell Biol. Int. 33: 83-91.
7. Moes, M.J., et al. 2011. Attachment of HeLa cells during early G_1 phase. Histochem. Cell Biol. 136: 399-411.
8. Tang, C., et al. 2010. A role for receptor-operated Ca^{2+} entry in human pulmonary artery smooth muscle cells in response to hypoxia. Physiol Res. 59: 909-918.
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