SANTA CRUZ BIOTECHNOLOGY, INC.

group VI iPLA$_2$ (E-8): sc-166616

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phospholipases catalyze the release of fatty acids from phospholipids. One member of the phospholipase family, iPLA$_2$, is detected as a membrane-bound protein with multiple smaller isoforms, which result from alternative splicing. Two isoforms, Ankyrin-iPLA$_2$-1 and -2, lack the catalytic domain and are thought to be involved in the negative regulation of iPLA$_2$ activity. The SH-iPLA$_2$ isoform is cytoplasmically localized. The human gene encoding iPLA$_2$ maps to chromosome 22q13.1. Another phopholipase, sPLA$_2$, belongs to a family of secretory phospholipases A$_2$, which represent an expanding family of related enzymes. sPLA$_2$ has both membrane bound and secreted forms that are encoded by a single gene. sPLA$_2$ is involved in the regulation of phospholipid metabolism in biomembranes and in eicosanoid biosynthesis.

REFERENCES

1. Scott, D.L., et al. 1991. Structures of free and inhibited human secretory phospholipase A$_2$ from inflammatory exudate. Science 254: 1007-1010.
2. Lehninger, A., et al. 1993. Principles of Biochemistry Second Edition. Worth Publishers.

CHROMOSOMAL LOCATION

Genetic locus: PLA2G6 (human) mapping to 22q13.1; Pla2g6 (mouse) mapping to 15 E1.

SOURCE

group VI iPLA$_2$ (E-8) is a mouse monoclonal antibody raised against amino acids 1-120 of group VI iPLA$_2$ of human origin.

PRODUCT

Each vial contains 200 µg IgG$_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

group VI iPLA$_2$ (E-8) is recommended for detection of calcium-independent 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), immunohistochemistry (including paraffin-embedded sections) (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 group VI iPLA$_2$ siRNA (h): sc-43819, group VI iPLA$_2$ siRNA (m): sc-43820, group VI iPLA$_2$ siRNA (r): sc-270117, group VI iPLA$_2$ shRNA Plasmid (h): sc-43819-SH, group VI iPLA$_2$ shRNA Plasmid (m): sc-43820-SH, group VI iPLA$_2$ shRNA Plasmid (r): sc-270117-SH, group VI iPLA$_2$ shRNA (h) Lentiviral Particles: sc-43819-V, group VI iPLA$_2$ shRNA (m) Lentiviral Particles: sc-43820-V and group VI iPLA$_2$ shRNA (r) Lentiviral Particles: sc-270117-V.

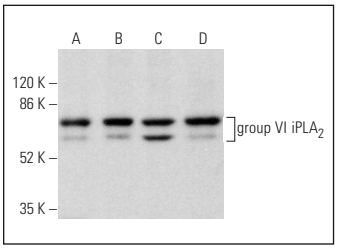
Molecular Weight of group VI iPLA$_2$: 88 kDa.

Positive Controls: F9 cell lysate: sc-2245, PC-12 cell lysate: sc-2250 or c4 whole cell lysate: sc-364186.

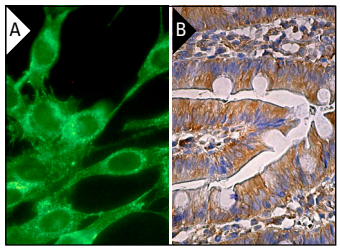
RECOMMENDED SUPPORT REAGENTS

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



group VI iPLA$_2$ (E-8): sc-166616. Western blot analysis of group VI iPLA$_2$ expression in F9 (**A**), PC-12 (**B**) and c4 (**C**) whole cell lysates and mouse liver tissue extract (**D**).



group VI iPLA$_2$ (E-8): sc-166616. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Jiao, L., et al. 2015. Deficiency of group VIA phospholipase A$_2$ (iPLA$_2$β) renders susceptibility for chemical-induced colitis. Dig. Dis. Sci. 60: 3590-3602.
2. Nelson, A.J., et al. 2020. Macrophage polarization is linked to Ca^{2+}-independent phospholipase A$_2$β-derived lipids and cross-cell signaling in mice. J. Lipid Res. 61: 143-158.
3. Jin, T., et al. 2021. iPLA$_2$β contributes to ER stress-induced apoptosis during myocardial ischemia/reperfusion injury. Cells 10: 1446.
4. Zhao, Z., et al. 2021. Lipid metabolism is a novel and practical source of potential targets for antiviral discovery against porcine parvovirus. Vet. Microbiol. 261: 109177.

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.