SANTA CRUZ BIOTECHNOLOGY, INC.

group VI iPLA$_2$ (D-4): sc-376563

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, iPLA$_2$, belongs to a family of secretory phospholipases A$_2$, which represent an expanding family of related enzymes. iPLA$_2$ has both membrane bound and secreted forms that are encoded by a single gene. iPLA$_2$ 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. New York: Worth Publishers.
3. Cupillard, L., et al. 1997. Cloning, chromosomal mapping, and expression of a novel human secretory phospholipase A$_2$. J. Biol. Chem. 272: 15745-15752.

CHROMOSOMAL LOCATION

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

SOURCE

group VI iPLA$_2$ (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 727-759 near the C-terminus of iPLA$_2$ of human origin.

PRODUCT

Each vial contains 200 µg IgG$_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

group VI iPLA$_2$ (D-4) is available conjugated to agarose (sc-376563 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376563 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376563 PE), fluorescein (sc-376563 FITC), Alexa Fluor® 488 (sc-376563 AF488), Alexa Fluor® 546 (sc-376563 AF546), Alexa Fluor® 594 (sc-376563 AF594) or Alexa Fluor® 647 (sc-376563 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376563 AF680) or Alexa Fluor® 790 (sc-376563 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376563 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

group VI iPLA$_2$ (D-4) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

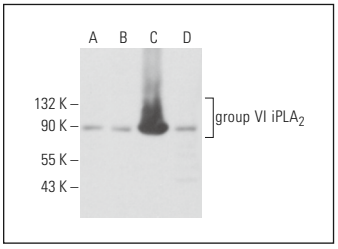
group VI iPLA$_2$ (D-4) is also recommended for detection of calcium-independent PLA$_2$ in additional species, including equine, canine, bovine and porcine.

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.

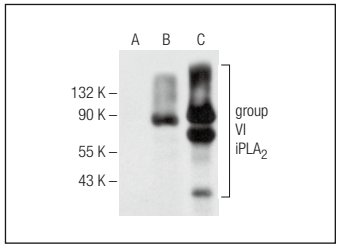
Molecular Weight of group VI iPLA$_2$: 88 kDa.

Positive Controls: group VI iPLA$_2$ (h): 293T Lysate: sc-116309, c4 whole cell lysate: sc-364186 or KNRK whole cell lysate: sc-2214.

DATA



group VI iPLA$_2$ (D-4): sc-376563. Western blot analysis of group VI iPLA$_2$ expression in DU 145 (**A**), c4 (**B**), KNRK (**C**) and PC-12 (**D**) whole cell lysates.



group VI iPLA$_2$ (D-4): sc-376563. Western blot analysis of group VI iPLA$_2$ expression in non-transfected: sc-117752 (**A**) and human group VI iPLA$_2$ transfected: sc-116309 (**B**) 293T whole cell lysates and rat testis tissue extract (**C**).

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.
2. Chen, D., et al. 2021. iPLA2β-mediated lipid detoxification controls p53-driven ferroptosis independent of GPX4. Nat. Commun. 12: 3644.
3. Kajiwara, K., et al. 2022. Ferroptosis induces membrane blebbing in placental trophoblasts. J. Cell Sci. 135: jcs255737.
4. Lin, G., et al. 2023. Exploring therapeutic strategies for infantile neuronal axonal dystrophy (INAD/PARK14). Elife 12: e82555.

STORAGE

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