

# group VI iPLA<sub>2</sub> (D-20): sc-14466

## BACKGROUND

Phospholipases catalyze the release of fatty acids from phospholipids. One member of the phospholipase family, iPLA<sub>2</sub>, is detected as an 88 kDa membrane-bound protein with multiple smaller isoforms, which result from alternative splicing. Two isoforms, ankyrin-iPLA<sub>2</sub>-1 and 2, lack the catalytic domain and are thought to be involved in the negative regulation of iPLA<sub>2</sub> activity. The SH-iPLA<sub>2</sub> isoform is 85 kDa and is cytoplasmically localized. The human gene encoding iPLA<sub>2</sub> maps to chromosome 22q13.1. Another phospholipase, sPLA<sub>2</sub>, belongs to a family of secretory phospholipases A<sub>2</sub>, which represent an expanding family of related enzymes. sPLA<sub>2</sub> has both membrane bound and secreted forms that are encoded by a single gene. sPLA<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub>. *J. Biol. Chem.* 272: 15745-15752.
4. Kitadokoro, K., et al. 1998. Crystal structure of human secretory phospholipase A<sub>2</sub>-IIA complex with the potent indolizine inhibitor 120-1032. *J. Biochem.* 123: 619-623.
5. Ma, Z., et al. 1999. Human pancreatic islets express mRNA species encoding two distinct catalytically active isoforms of group VI phospholipase A<sub>2</sub> (iPLA<sub>2</sub>) that arise from an exon-skipping mechanism of alternative splicing of the transcript from the iPLA<sub>2</sub> gene on chromosome 22q13.1. *J. Biol. Chem.* 274: 9607-9616.
6. Larsson-Forsell, P.K., et al. 1999. The human calcium-independent phospholipase A<sub>2</sub> gene multiple enzymes with distinct properties from a single gene. *Eur. J. Biochem.* 262: 575-585.

## CHROMOSOMAL LOCATION

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

## SOURCE

group VI iPLA<sub>2</sub> (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of iPLA<sub>2</sub> of rat origin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## 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-14466 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

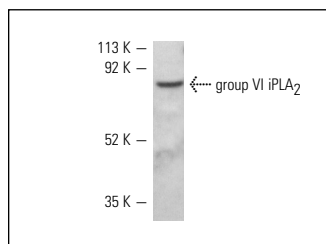
group VI iPLA<sub>2</sub> (D-20) is recommended for detection of calcium-independent PLA<sub>2</sub> of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell 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).

Suitable for use as control antibody for group VI iPLA<sub>2</sub> siRNA (h): sc-43819, group VI iPLA<sub>2</sub> siRNA (m): sc-43820, group VI iPLA<sub>2</sub> shRNA Plasmid (h): sc-43819-SH, group VI iPLA<sub>2</sub> shRNA Plasmid (m): sc-43820-SH, group VI iPLA<sub>2</sub> shRNA (h) Lentiviral Particles: sc-43819-V and group VI iPLA<sub>2</sub> shRNA (m) Lentiviral Particles: sc-43820-V.

Molecular Weight of group VI iPLA<sub>2</sub>: 88 kDa.

Positive Controls: rat testis extract: sc-2400.

## DATA



group VI iPLA<sub>2</sub> (D-20): sc-14466. Western blot analysis of group VI iPLA<sub>2</sub> expression in rat testis extract.

## SELECT PRODUCT CITATIONS

1. Yellaturu, C.R., et al. 2003. A requirement for calcium-independent phospholipase A<sub>2</sub> in Thrombin-induced arachidonic acid release and growth in vascular smooth muscle cells. *J. Biol. Chem.* 278: 43831-43837.
2. Ong, W.Y., et al. 2005. Distribution of calcium-independent phospholipase A<sub>2</sub> (iPLA<sub>2</sub>) in monkey brain. *J. Neurocytol.* 34: 447-458.

## RESEARCH USE

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

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Try **group VI iPLA<sub>2</sub> (D-4): sc-376563** or **group VI iPLA<sub>2</sub> (E-8): sc-166616**, our highly recommended monoclonal alternatives to group VI iPLA<sub>2</sub> (D-20).