

# group X sPLA<sub>2</sub> (L-13): sc-22966

## BACKGROUND

Phospholipases catalyze the release of fatty acids from phospholipids. One member of the phospholipase family, iPLA<sub>2</sub>, is detected as a membrane-bound protein with multiple smaller isoforms, which result from alternative splicing. 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 which maps to human chromosome 1p35. sPLA<sub>2</sub> is involved in the regulation of phospholipid metabolism in biomembranes and in eicosanoid biosynthesis. Group X sPLA<sub>2</sub> mRNA is found in various tissues including the lung, thymus, and spleen, and immunohistochemical analysis reveals its expression in splenic macrophages. Group X sPLA<sub>2</sub> is an actively secreted enzyme that maps to human chromosome 16p13.12.

## 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: PLA2G10 (human) mapping to 16p13.12; Pla2g10 (mouse) mapping to 16 A1.

## SOURCE

group X sPLA<sub>2</sub> (L-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of group X sPLA<sub>2</sub> 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-22966 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

group X sPLA<sub>2</sub> (L-13) is recommended for detection of group X secretory PLA<sub>2</sub> of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 X sPLA<sub>2</sub> (L-13) is also recommended for detection of group X secretory PLA<sub>2</sub> in additional species, including bovine.

Suitable for use as control antibody for group X sPLA<sub>2</sub> siRNA (h): sc-43821, group X sPLA<sub>2</sub> siRNA (m): sc-60031, group X sPLA<sub>2</sub> shRNA Plasmid (h): sc-43821-SH, group X sPLA<sub>2</sub> shRNA Plasmid (m): sc-60031-SH, group X sPLA<sub>2</sub> shRNA (h) Lentiviral Particles: sc-43821-V and group X sPLA<sub>2</sub> shRNA (m) Lentiviral Particles: sc-60031-V.

Molecular Weight of group X sPLA<sub>2</sub>: 13.6 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Wei, Y., et al. 2011. sPLA<sub>2</sub>-IIa amplifies ocular surface inflammation in the experimental dry eye (DE) BALB/c mouse model. *Invest. Ophthalmol. Vis. Sci.* 52: 4780-4788.
2. Wei, Y., et al. 2012. Isoforms of secretory group two phospholipase A (sPLA<sub>2</sub>) in mouse ocular surface epithelia and lacrimal glands. *Invest. Ophthalmol. Vis. Sci.* 53: 2845-2855.

## 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.



Try **group X sPLA<sub>2</sub> (E-4): sc-514324**, our highly recommended monoclonal alternative to group X sPLA<sub>2</sub> (L-13).