

group X sPLA₂ (N-15): sc-22965

BACKGROUND

Phospholipases catalyze the release of fatty acids from phospholipids. One member of the phospholipase family, iPLA₂, is detected as a membrane-bound protein with multiple smaller isoforms, which result from alternative splicing. Another phospholipase, sPLA₂, belongs to a family of secretory phospholipases A₂, which represent an expanding family of related enzymes. sPLA₂ has both membrane bound and secreted forms that are encoded by a single gene which maps to human chromosome 1p35. sPLA₂ is involved in the regulation of phospholipid metabolism in biomembranes and in eicosanoid biosynthesis. Group X sPLA₂ mRNA is found in various tissues including the lung, thymus, and spleen, and immunohistochemical analysis reveals its expression in splenic macrophages. Group X sPLA₂ 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 A₂ 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 A₂. *J. Biol. Chem.* 272: 15745-15752.
4. Kitadokoro, K., et al. 1998. Crystal structure of human secretory phospholipase A₂-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 A₂ (iPLA₂) that arise from an exon-skipping mechanism of alternative splicing of the transcript from the iPLA₂ gene on chromosome 22q13.1. *J. Biol. Chem.* 274: 9607-9616.
6. Larsson-Forsell, P.K., et al. 1999. The human calcium-independent phospholipase A₂ 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 sPLA₂ (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of group X sPLA₂ 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-22965 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

group X sPLA₂ (N-15) is recommended for detection of group X secretory PLA₂ 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).

Suitable for use as control antibody for group X sPLA₂ siRNA (h): sc-43821, group X sPLA₂ siRNA (m): sc-60031, group X sPLA₂ shRNA Plasmid (h): sc-43821-SH, group X sPLA₂ shRNA Plasmid (m): sc-60031-SH, group X sPLA₂ shRNA (h) Lentiviral Particles: sc-43821-V and group X sPLA₂ shRNA (m) Lentiviral Particles: sc-60031-V.

Molecular Weight of group X sPLA₂: 14 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. sPLA₂-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 (sPLA₂) 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


 MONOS
Satisfation
Guaranteed

Try **group X sPLA₂ (E-4): sc-514324**, our highly recommended monoclonal alternative to group X sPLA₂ (N-15).