

group II sPLA₂ (M-18): sc-14472

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. Two isoforms, Ankyrin- iPLA₂-1 and -2, lack the catalytic domain and are thought to be involved in the negative regulation of iPLA₂ activity. The SH-iPLA₂ isoform is cytoplasmically localized. The human gene encoding iPLA₂ maps to chromosome 22q13.1. 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. sPLA₂ 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 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: Pla2g2a (mouse) mapping to 4 D3.

SOURCE

group II sPLA₂ (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of group II sPLA₂ of rat 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-14472 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

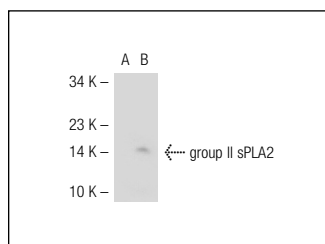
group II sPLA₂ (M-18) is recommended for detection of group II secretory PLA₂ of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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 II sPLA₂ siRNA (m): sc-43818, group II sPLA₂ shRNA Plasmid (m): sc-43818-SH and group II sPLA₂ shRNA (m) Lentiviral Particles: sc-43818-V.

Molecular Weight of group II sPLA₂: 14 kDa.

Positive Controls: group II sPLA₂ (m): 293T Lysate: sc-125421 or mouse lung extract: sc-2390.

DATA



group II sPLA₂ (M-18): sc-14472. Western blot analysis of group II sPLA₂ expression in non-transfected: sc-117752 (A) and mouse group II sPLA₂ transfected: sc-125421 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lin, T.N., et al. 2004. Induction of secretory phospholipase A₂ in reactive astrocytes in response to transient focal cerebral ischemia in the rat brain. *J. Neurochem.* 90: 637-645.
2. Steenwinckel, V., et al. 2009. IL-9 promotes IL-13-dependent paneth cell hyperplasia and upregulation of innate immunity mediators in intestinal mucosa. *J. Immunol.* 182: 4737-4743.
3. Suárez-Souto, M.A., et al. 2012. Caloric restriction modifies both innate and adaptive immunity in the mouse small intestine. *J. Physiol. Biochem.* 68: 163-173.

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.