

group IIF sPLA₂ (S-14): sc-164553

BACKGROUND

Phospholipase A₂s (PLA₂s) constitute a family of esterases that hydrolyze the sn-2-acyl ester bond in glycerophospholipid molecules. These enzymes are generally calcium-dependent and have been found both intra- and extracellularly. By hydrolyzing the sn-2 bond in glycerophospholipids, PLA₂s release fatty acids. One such fatty acid, arachidonic acid, generates substrates for the initiation of the arachidonic acid cascade that produces various eicosanoids, many of which are potent mediators of inflammation. As a member of the PLA₂ family, group IIF sPLA₂, also known as PLA2G2F, is a 168 amino acid secreted protein that is highly expressed in placenta, testis, thymus and at expressed at lower levels in heart, kidney, liver and prostate. Existing as two alternatively spliced isoforms, group IIF sPLA₂ catalyzes the calcium-dependent hydrolysis of the 2-acyl groups in 3-sn-phosphoglycerides.

REFERENCES

- Seilhamer, J.J., et al. 1989. Novel gene exon homologous to pancreatic phospholipase A₂: sequence and chromosomal mapping of both human genes. *J. Cell. Biochem.* 39: 327-337.
- Johnson, L.K., et al. 1990. Localization and evolution of two human phospholipase A₂ genes and two related genetic elements. *Adv. Exp. Med. Biol.* 275: 17-34.
- Spirio, L.N., et al. 1996. Three secretory phospholipase A₂ genes that map to human chromosome 1P35-36 are not mutated in individuals with attenuated adenomatous polyposis coli. *Cancer Res.* 56: 955-958.
- Tischfield, J.A., et al. 1996. Low-molecular-weight, calcium-dependent phospholipase A₂ genes are linked and map to homologous chromosome regions in mouse and human. *Genomics* 32: 328-333.
- Chen, J., et al. 1997. Localization of group IIc low molecular weight phospholipase A₂ mRNA to meiotic cells in the mouse. *J. Cell. Biochem.* 64: 369-375.
- Ishizaki, J., et al. 1999. Cloning and characterization of novel mouse and human secretory phospholipase A₂s. *J. Biol. Chem.* 274: 24973-24979.
- Lambeau, G., et al. 1999. Receptors for a growing family of secreted phospholipases A₂. *Trends Pharmacol. Sci.* 20: 162-170.
- Shakhov, A.N., et al. 2000. SPLASH (PLA2IID), a novel member of phospholipase A₂ family, is associated with lymphotoxin deficiency. *Genes Immun.* 1: 191-199.
- Valentin, E., et al. 2000. Cloning and recombinant expression of human group IIF-secreted phospholipase A₂. *Biochem. Biophys. Res. Commun.* 279: 223-228.

CHROMOSOMAL LOCATION

Genetic locus: Pla2g2f (mouse) mapping to 4 D3.

SOURCE

group IIF sPLA₂ (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of group IIF sPLA₂ of mouse 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-164553 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

group IIF sPLA₂ (S-14) is recommended for detection of group IIF sPLA₂ of mouse and rat 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 IIF sPLA₂ (S-14) is also recommended for detection of group IIF sPLA₂ in additional species, including equine and porcine.

Suitable for use as control antibody for group IIF sPLA₂ siRNA (m): sc-145772, group IIF sPLA₂ shRNA Plasmid (m): sc-145772-SH and group IIF sPLA₂ shRNA (m) Lentiviral Particles: sc-145772-V.

Molecular Weight of group IIF sPLA₂ isoforms: 19/23 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.

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.