

group IVD sPLA₂ (M-18): sc-160395

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 the substrates for the initiation of the arachidonic acid cascade that produces various eico-sanoids, many of which are potent mediators of inflammation. Group IVD sPLA₂, also known as PLA₂G4D (phospholipase A₂ group IVD) or cPLA₂-δ (cytosolic phospholipase A₂ δ), is an 818 amino acid calcium-dependent phospholipase that contains one PLA₂c domain, a C2 domain and exists as 2 alternatively spliced isoforms. A peripheral membrane protein, group IVD sPLA₂ is suggested to play a role in the inflammation of psoriatic lesions. Group IVD sPLA₂ catalyzes the reaction of phosphatidylcholine and water into 1-acylglycerophosphocholine and carboxylate.

REFERENCES

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2. Schröder, H.C., et al. 1998. Mechanisms of prionSc- and HIV-1 gp120 induced neuronal cell death. *Neurotoxicology* 19: 683-688.
3. Ishizaki, J., et al. 1999. Cloning and characterization of novel mouse and human secretory phospholipase A₂s. *J. Biol. Chem.* 274: 24973-24979.
4. Chiba, H., et al. 2004. Cloning of a gene for a novel epithelium-specific cytosolic phospholipase A₂, cPLA₂δ, induced in psoriatic skin. *J. Biol. Chem.* 279: 12890-12897.
5. Tao, R., et al. 2005. A family based study of the genetic association between the PLA₂G4D gene and schizophrenia. *Prostaglandins Leukot. Essent. Fatty Acids.* 73: 419-422.
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CHROMOSOMAL LOCATION

Genetic locus: Pla2g4d (mouse) mapping to 2 E5.

SOURCE

group IVD sPLA₂ (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of group IVD 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-160395 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

group IVD sPLA₂ (M-18) is recommended for detection of group IVD sPLA₂ of mouse 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); non cross-reactive with other Phospholipase A₂ family members.

Suitable for use as control antibody for group IVD sPLA₂ siRNA (m): sc-145776, group IVD sPLA₂ shRNA Plasmid (m): sc-145776-SH and group IVD sPLA₂ shRNA (m) Lentiviral Particles: sc-145776-V.

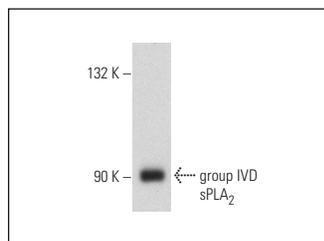
Molecular Weight of group IVD sPLA₂: 92 kDa.

Positive Controls: F9 cell lysate: sc-2245.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



group IVD sPLA₂ (M-18): sc-160395. Western blot analysis of group IVD sPLA₂ expression in F9 whole cell lysate.

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.