SANTA CRUZ BIOTECHNOLOGY, INC.

group IVD $sPLA_2$ (H-6): sc-398758

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phospholipase A_2s (PLA_2s) 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, PLA_2s release fatty acids. One such fatty acid, arachidonic acid, generates the substrates for the initiation of the arachidonic acid cascade that produces various eicosanoids, many of which are potent mediators of inflammation. Group IVD $sPLA_2$, also known as PLA2G4D (phospholipase A_2 group IVD) or $cPLA_2$-δ (cytosolic phospholipase A_2 δ), is an 818 amino acid calcium-dependent phospholipase that contans one PLA_2c domain, a C2 domain and exists as two alternatively spliced isoforms. A peripheral membrane protein, group IVD $sPLA_2$ is suggested to play a role in the inflammation of psoriatic lesions. Group IVD $sPLA_2$ catalyzes the reaction of phosphatidylcholine and water into 1-acylglycerophosphocholine and carboxylate.

REFERENCES

1. Mavoungou, E., et al. 1997. HIV and SIV envelope glycoproteins induce phospholipase A_2 activation in human and macaque lymphocytes. J. Acquir. Immune Defic. Syndr. Hum. Retrovirol. 16: 1-9.
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 A_2s. J. Biol. Chem. 274: 24973-24979.
4. Chiba, H., et al. 2004. Cloning of a gene for a novel epithelium-specific cytosolic phospholipase A_2, $cPLA_2$δ, 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.
6. Yu, Q., et al. 2008. Study on the genetic association between the polymorphism of cytosolic phospholipase A_2 family genes and schizophrenia. Zhonghua Liu Xing Bing Xue Za Zhi 29: 173-176.

CHROMOSOMAL LOCATION

Genetic locus: PLA2G4D (human) mapping to 15q15.1; Pla2g4d (mouse) mapping to 2 E5.

SOURCE

group IVD $sPLA_2$ (H-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 805-828 within a C-terminal cytoplasmic domain of group IVD $sPLA_2$ of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398758 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

group IVD $sPLA_2$ (H-6) is recommended for detection of group IVD $sPLA_2$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 IVD $sPLA_2$ siRNA (h): sc-90240, group IVD $sPLA_2$ siRNA (m): sc-145776, group IVD $sPLA_2$ shRNA Plasmid (h): sc-90240-SH, group IVD $sPLA_2$ shRNA Plasmid (m): sc-145776-SH, group IVD $sPLA_2$ shRNA (h) Lentiviral Particles: sc-90240-V and group IVD $sPLA_2$ shRNA (m) Lentiviral Particles: sc-145776-V.

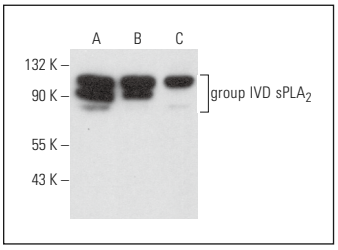
Molecular Weight of group IVD $sPLA_2$: 92 kDa.

Positive Controls: F9 cell lysate: sc-2245, Neuro-2A whole cell lysate: sc-364185 or NIH/3T3 whole cell lysate: sc-2210.

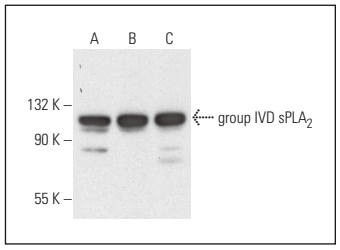
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



group IVD $sPLA_2$ (H-6): sc-398758. Western blot analysis of group IVD $sPLA_2$ expression in F9 (**A**), Neuro-2A (**B**) and C6 (**C**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



group IVD $sPLA_2$ (H-6): sc-398758. Western blot analysis of group IVD $sPLA_2$ expression in F9 (**A**), Neuro-2A (**B**) and NIH/3T3 (**C**) whole cell lysates.

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.