



group IIE sPLA₂ (T-14): sc-103539

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 eicosanoids, many of which are potent mediators of inflammation. As a member of the PLA₂ family, group IIE sPLA₂ (Group IIE secretory phospholipase A₂), also known as PLA2G2E (Phosphatidylcholine 2-acylhydrolase GIIIE) and sPLA₂-IIE, is a 142 amino acid secreted enzyme that promotes stimulus-induced arachidonic acid release and prostaglandin production, therefore playing a major role in the inflammatory process. Expression of group IIE sPLA₂ is restricted to heart, brain, lung and placenta.

REFERENCES

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- Sato, H., et al. 2008. Analyses of group III secreted phospholipase A₂ transgenic mice reveal potential participation of this enzyme in plasma lipoprotein modification, macrophage foam cell formation, and atherosclerosis. *J. Biol. Chem.* 283: 33483-33497.
- Giannattasio, G., et al. 2009. Expression of phospholipases A₂ in primary human lung macrophages: role of cytosolic phospholipase A₂-α in arachidonic acid release and platelet activating factor synthesis. *Biochim. Biophys. Acta* 1791: 92-102.
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STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: PLA2G2E (human) mapping to 1p36.13; Pla2g2e (mouse) mapping to 4 D3.

SOURCE

group IIE sPLA₂ (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of group IIE 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-103539 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

group IIE sPLA₂ (T-14) is recommended for detection of group IIE sPLA₂ 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 IIE sPLA₂ siRNA (h): sc-88254, group IIE sPLA₂ siRNA (m): sc-105418, group IIE sPLA₂ shRNA Plasmid (h): sc-88254-SH, group IIE sPLA₂ shRNA Plasmid (m): sc-105418-SH, group IIE sPLA₂ shRNA (h) Lentiviral Particles: sc-88254-V and group IIE sPLA₂ shRNA (m) Lentiviral Particles: sc-105418-V.

Molecular Weight of group IIE sPLA₂: 16 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.

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.