SANTA CRUZ BIOTECHNOLOGY, INC.

LYPLA3 (B-2): sc-376078

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

LYPLA3 (lysophospholipase 3) also referred to as ACS, LLPL or LPLA2 (lysosomal phospholipase A2), is ubiquitously expressed with highest expression in kidney, placenta, pancreas, testis, spleen, heart and skeletal muscle. LYPLA3, which localizes to lysosomes, is calcium-independent and has an acidic pH optimum. LYPLA3 transacylates ceramide and increases lysosomal membrane permeability to both potassium ions and protons. It may play a critical role in pulmonary surfactant phospholipid degradation due to its high specificity towards phosphatidylethanolamine and phosphatidylcholine in alveolar macrophages. LYPLA3 may also enhance lysosome osmotic sensitivity, resulting in the destabilization of the enzyme by causing leakage and inducing apoptosis. LYPLA3 is thought to remodel acyl groups and modulate the biological and pharmacological activities of some lipophilic alcohols.

CHROMOSOMAL LOCATION

Genetic locus: PLA2G15 (human) mapping to 16q22.1.

SOURCE

LYPLA3 (B-2) is a mouse monoclonal antibody raised against amino acids 246-412 mapping at the C-terminus of LYPLA3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LYPLA3 (B-2) is available conjugated to agarose (sc-376078 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376078 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376078 PE), fluorescein (sc-376078 FITC), Alexa Fluor® 488 (sc-376078 AF488), Alexa Fluor® 546 (sc-376078 AF546), Alexa Fluor® 594 (sc-376078 AF594) or Alexa Fluor® 647 (sc-376078 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376078 AF680) or Alexa Fluor® 790 (sc-376078 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

LYPLA3 (B-2) is recommended for detection of LYPLA3 of 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), immunohistochemistry (including paraffin-embedded sections) (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 LYPLA3 siRNA (h): sc-93270, LYPLA3 shRNA Plasmid (h): sc-93270-SH and LYPLA3 shRNA (h) Lentiviral Particles: sc-93270-V.

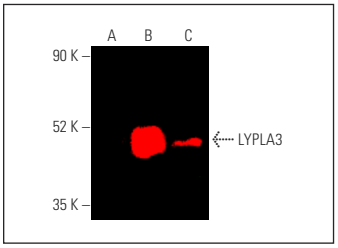
Molecular Weight of LYPLA3: 42 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, LYPLA3 (h): 293T Lysate: sc-116775 or HeLa whole cell lysate: sc-2200.

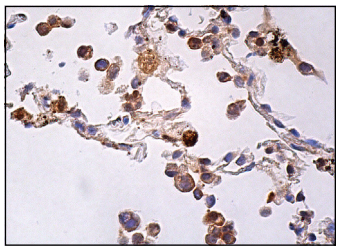
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



LYPLA3 (B-2): sc-376078. Near-Infrared western blot analysis of LYPLA3 expression in non-transfected 293T: sc-117752 (**A**), human LYPLA3 transfected 293T: sc-116775 (**B**) and Caki-1 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 790: sc-533666.



LYPLA3 (B-2): sc-376078. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic staining of pneumocytes and macrophages.

SELECT PRODUCT CITATIONS

1. Szymczak-Pajor, I., et al. 2020. Wide-range effects of 1,25$(OH)_2D_3$ on group 4A phospholipases is related to nuclear factor κB and phospholipase-A2 activating protein activity in mast cells. Int. Arch. Allergy Immunol. 181: 56-70.
2. Shahi, I., et al. 2022. Genome-wide CRISPR-Cas9 screen does not identify host factors modulating streptococcus agalactiae β-hemolysin/cytolysin-induced cell death. Microbiol. Spectr. 10: e0218621.

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 for detailed protocols and support products.