SANTA CRUZ BIOTECHNOLOGY, INC.

LYAG (G-7): sc-373745

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Lysosomal α-glucosidase (LYAG), also designated acid α-glucosidase or acid maltase, is essential for the degradation of glycogen to glucose in lysosomes. LYAG is a protein belonging to the glycosyl hydrolase 31 family and resides soley in the lysosome. After translation, LYAG undergoes proteolytic processing to form two lengths of lysosomal α-glucosidase, and both N-terminal and C-terminal processing occur. Conduritol B epoxide (CBE) is a competitive inhibitor of LYAG. Defects in GAA, the gene encoding for LYAG, may cause Pompe disease, an autosomal recessive disorder characterized by cardiorespiratory insufficiency and glycogen accumulation in muscle tissues, causing muscular weakness. Mutations on the LYAG gene also cause glycogen storage disease II (GSD-II).

CHROMOSOMAL LOCATION

Genetic locus: GAA (human) mapping to 17q25.3; Gaa (mouse) mapping to 11 E2.

SOURCE

LYAG (G-7) is a mouse monoclonal antibody raised against amino acids 131-190 mapping near the N-terminus of LYAG 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.

LYAG (G-7) is available conjugated to agarose (sc-373745 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373745 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373745 PE), fluorescein (sc-373745 FITC), Alexa Fluor® 488 (sc-373745 AF488), Alexa Fluor® 546 (sc-373745 AF546), Alexa Fluor® 594 (sc-373745 AF594) or Alexa Fluor® 647 (sc-373745 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373745 AF680) or Alexa Fluor® 790 (sc-373745 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

LYAG (G-7) is recommended for detection of precursor and mature LYAG 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), 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 LYAG siRNA (h): sc-60974, LYAG siRNA (m): sc-60975, LYAG shRNA Plasmid (h): sc-60974-SH, LYAG shRNA Plasmid (m): sc-60975-SH, LYAG shRNA (h) Lentiviral Particles: sc-60974-V and LYAG shRNA (m) Lentiviral Particles: sc-60975-V.

Molecular Weight of LYAG cleavage fragments: 70/76 kDa.

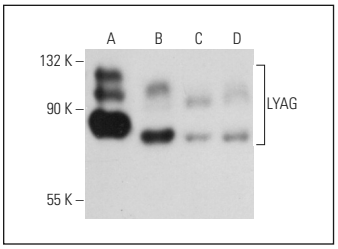
Molecular Weight of LYAG: 110 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226, 3T3-L1 cell lysate: sc-2243 or HeLa whole cell lysate: sc-2200.

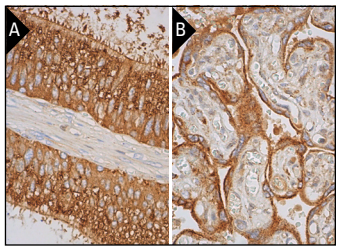
RECOMMENDED SUPPORT REAGENTS

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



LYAG (G-7): sc-373745. Western blot analysis of LYAG expression in COLO 320DM (**A**), HeLa (**B**), Sol8 (**C**) and 3T3-L1 (**D**) whole cell lysates.



LYAG (G-7): sc-373745. Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Staubach, S., et al. 2016. Differential proteomics of urinary exovesicles from classical galactosemic patients reveals subclinical kidney insufficiency. J. Proteome Res. 15: 1754-1761.
2. Jean Beltran, P.M., et al. 2016. A portrait of the human organelle proteome in space and time during cytomegalovirus infection. Cell Syst. 3: 361-373.e6.
3. Zois, C.E., et al. 2022. Liver glycogen phosphorylase is upregulated in glioblastoma and provides a metabolic vulnerability to high dose radiation. Cell Death Dis. 13: 573.
4. Chen, M., et al. 2023. Comparative site-specific N-glycoproteome analysis reveals aberrant N-glycosylation and gives insights into mannose-6-phosphate pathway in cancer. Commun. Biol. 6: 48.

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.