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AGL (B-11): sc-518176

BACKGROUND

AGL (amylo-1, 6-glucosidase, 4- α -glucanotransferase), also known as GDE (glycogen debranching enzyme), is a 1,532 amino acid protein that exists as three alternatively spliced isoforms which are expressed in kidney, liver, heart and muscle in an isoform-specific manner. Exhibiting multifunctional enzyme capabilities, AGL contains two catalytic active sites, one of which acts as an 4- α -glucotransferase and the other of which acts as an amylo-1,6-glucosidase during glycogen degradation. Defects in the gene encoding AGL are the cause of glycogen storage disease type 3 (GSD3), also known as Forbes disease. GSD3 is a metabolic disorder that is characterized by the presence of abnormal glycogen due to a lack of AGL activity. Symptoms of GSD3 generally include hypoglycemia, variable myopathy, hepatomegaly and short stature.

REFERENCES

- Ding, J.H., et al. 1990. Immunoblot analyses of glycogen debranching enzyme in different subtypes of glycogen storage disease type III. *J. Pediatr.* 116: 95-100.
- Yang, B.Z., et al. 1992. Molecular cloning and nucleotide sequence of cDNA encoding human muscle glycogen debranching enzyme. *J. Biol. Chem.* 267: 9294-9299.
- Shen, J., et al. 1996. Mutations in exon 3 of the glycogen debranching enzyme gene are associated with glycogen storage disease type III that is differentially expressed in liver and muscle. *J. Clin. Invest.* 98: 352-357.
- Orho, M., et al. 1998. Mutations in the liver glycogen synthase gene in children with hypoglycemia due to glycogen storage disease type 0. *J. Clin. Invest.* 102: 507-515.
- Horinishi, A., et al. 2002. Mutational and haplotype analysis of AGL in patients with glycogen storage disease type III. *J. Hum. Genet.* 47: 55-59.

CHROMOSOMAL LOCATION

Genetic locus: AGL (human) mapping to 1p21.2; Agl (mouse) mapping to 3 G1.

SOURCE

AGL (B-11) is a mouse monoclonal antibody raised against amino acids 1233-1532 mapping at the C-terminus of AGL of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AGL (B-11) is available conjugated to agarose (sc-518176 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518176 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518176 PE), fluorescein (sc-518176 FITC), Alexa Fluor[®] 488 (sc-518176 AF488), Alexa Fluor[®] 546 (sc-518176 AF546), Alexa Fluor[®] 594 (sc-518176 AF594) or Alexa Fluor[®] 647 (sc-518176 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-518176 AF680) or Alexa Fluor[®] 790 (sc-518176 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

AGL (B-11) is recommended for detection of AGL of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 AGL siRNA (h): sc-88368, AGL siRNA (m): sc-140904, AGL shRNA Plasmid (h): sc-88368-SH, AGL shRNA Plasmid (m): sc-140904-SH, AGL shRNA (h) Lentiviral Particles: sc-88368-V and AGL shRNA (m) Lentiviral Particles: sc-140904-V.

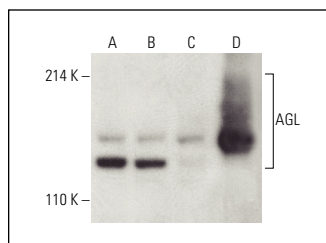
Molecular Weight of AGL: 160 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, human skeletal muscle extract: sc-363776 or Jurkat whole cell lysate: sc-2204.

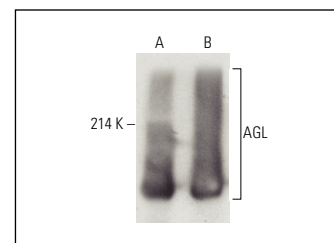
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



AGL (B-11): sc-518176. Western blot analysis of AGL expression in K-562 (A), Jurkat (B) and U-698-M (C) whole cell lysates and human skeletal muscle tissue extract (D). Detection reagent used: m-IgG κ BP-HRP: sc-516102.



AGL (B-11): sc-518176. Western blot analysis of AGL expression in human skeletal muscle (A) and mouse skeletal muscle (B) tissue extracts. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

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.