abcam

Product datasheet

Anti-Glycogen synthase 1/GYS1 (phospho S641) antibody ab2479

5 References 2 Images

Overview

Product name	Anti-Glycogen synthase 1/GYS1 (phospho S641) antibody
Description	Rabbit polyclonal to Glycogen synthase 1/GYS1 (phospho S641)
Host species	Rabbit
Specificity	This phospho specific polyclonal antibody is specific for phosphorylated Ser 641 of human muscle glycogen synthase (GYS1). Reactivity with non-phosphorylated human muscle glycogen synthase is less than 1% by ELISA.
Tested applications	**Suitable for:** IHC-P, WB
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	Synthetic peptide corresponding to Human Glycogen synthase 1/GYS1 aa 600-700 (phospho S641) conjugated to keyhole limpet haemocyanin. Run BLAST with Run BLAST with
General notes	Human muscle glycogen synthase (GYS1) is responsible for the biosynthesis of glycogen from phosphorylated glucose units. Mammalian liver and muscle contain GS consisting of four subunits with a total molecular weight of 360,000. GS is subject to regulation through both allosteric and covalent modification and occurs in two forms: the phosphorylated inactive form, and the dephosphorylated active form. GYS1 is inactivated by the serine/threonine kinase called glycogen synthase kinase-3b that mainly functions to phosphorylate muscle glycogen synthase. This antibody is specific for the phosphorylated form of GYS1 at Ser 640. Phosphorylation of GYS1 at S640 has been associated with Antiphospholipid Antibody Syndrome. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid

Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: 0.42% Potassium phosphate, 0.87% Sodium chloride
Purity	Immunogen affinity purified
Purification notes	This antibody was affinity purified from monospecific antiserum by immunoaffinity purification. Antiserum was first purified against the phosphorylated form of the immunizing peptide. The resultant affinity purified antibody was then cross-adsorbed against the non-phosphorylated form of the immunizing peptide.
Primary antibody notes	Human muscle glycogen synthase (GYS1) is responsible for the biosynthesis of glycogen from phosphorylated glucose units. Mammalian liver and muscle contain GS consisting of four subunits with a total molecular weight of 360,000. GS is subject to regulation through both allosteric and covalent modification and occurs in two forms: the phosphorylated inactive form, and the dephosphorylated active form. GYS1 is inactivated by the serine/threonine kinase called glycogen synthase kinase-3b that mainly functions to phosphorylate muscle glycogen synthase. This antibody is specific for the phosphorylated form of GYS1 at Ser 640. Phosphorylation of GYS1 at S640 has been associated with Antiphospholipid Antibody Syndrome.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab2479 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

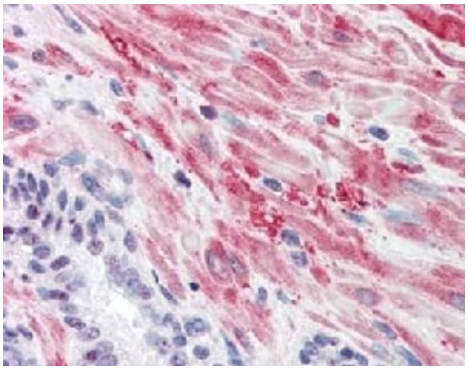
Application	Abreviews	Notes
IHC-P		1/1000 - 1/5000. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
WB		1/1000. Although not tested, this antibody is likely functional in Immunohistochemistry and Immunoprecipitation.

Target

Function	Transfers the glycosyl residue from UDP-Glc to the non-reducing end of alpha-1,4-glucan.
Pathway	Glycan biosynthesis; glycogen biosynthesis.
Involvement in disease	Defects in GYS1 are the cause of muscle glycogen storage disease type 0 (GSD0b) [MIM:611556]; also known as muscle glycogen synthase deficiency. GSD0b is a metabolic disorder characterized by fasting hypoglycemia presenting in infancy or early childhood. The role of muscle glycogen is to provide critical energy during bursts of activity and sustained muscle work.
Sequence similarities	Belongs to the glycosyltransferase 3 family.

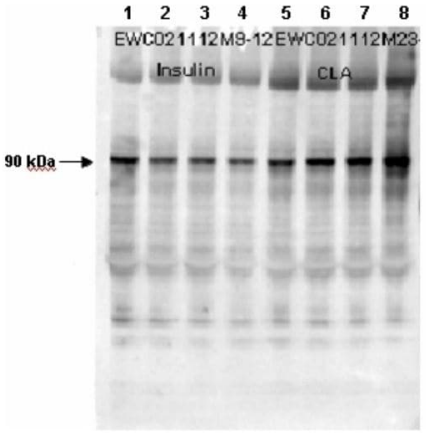
Images

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Glycogen synthase 1/GYS1 (phospho S641) antibody (ab2479)

Immunohistochemistry with Anti-Glycogen Synthase antibody Tissue: Human Prostate Fixation: formalin-fixed, paraffin-embedded tissue Antigen retrieval: heat-induced Primary antibody(ab2479): 5 µg/ml Staining: antibody as precipitated red signal with a hematoxylin purple nuclear counterstain.



Western blot - Anti-Glycogen synthase 1/GYS1 (phospho S641) antibody (ab2479)

All lanes : Anti-Glycogen synthase 1/GYS1 (phospho S641) antibody (ab2479) at 1/1000 dilution

Lanes 1 & 5 : mock treated mouse cardiac myocyte lysate at 12 µl
Lane 2 : insulin (10 nM, 15min) treated mouse cardiac myocyte lysate at 12 µl
Lane 3 : insulin (100 nM, 15min) treated mouse cardiac myocyte lysate at 12 µl
Lane 4 : insulin (1 mM, 15min) treated mouse cardiac myocyte lysate at 12 µl
Lane 6 : CLA treated (4 nM, 45min) mouse cardiac myocyte lysate at 12 µl
Lane 7 : CLA treated (20 nM, 45min) mouse cardiac myocyte lysate
Lane 8 : CLA treated (100 nM, 45min) mouse cardiac myocyte lysate

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (**ab7090**) at 1/5000 dilution

Rabbit polyclonal to phospho Glycogen Synthase (Ser 640) used at a 1/1000 dilution to detect human muscle GS by Western blot. Approximately 12 ul of a mouse cardiac myocyte lysate was loaded per lane on a 4-20% Criterion gel for SDS-PAGE. Samples were either mock treated (lanes 1 and 5) or insulin treated at 10 nM, 100 nM and 1 mM (lanes 2, 3 and 4 respectively) for 15' or CLA treated at 4nM, 20 nM or 100 nM (lanes 6,7 and 8 respectively) for 45'.

Goat polyclonal to rabbit IgG (HRP) (**ab7090**) was used as secondary antibody at 1/5000.

A 4-20% Criterion gel for SDS-PAGE was used.

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