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Datasheet for 600-401-415

Glycogen Synthase 1 phospho S641 Antibody

Overview

Description:	Anti-Muscle Glycogen Synthase pS641 (RABBIT) Antibody - 600-401-415
Item No.:	600-401-415
Size:	100 µg
Applications:	ELISA, IHC, WB
Reactivity:	Human, Mouse
Host Species:	Rabbit

Product Details

Background:	Anti-Glycogen synthase 1 pS641 is validated by IHC, Western Blot and ELISA. Human muscle glycogen synthase (GS) 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. GS 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 GS at S641. Phosphorylation of GS at S641 has been associated with Antiphospholipid Antibody Syndrome.
Synonyms:	rabbit anti-muscle glycogen synthase pS641 antibody, rabbit anti-glycogen synthase pS641 antibody, Glycogen antibody, Glycogen synthase 1 (muscle) antibody, Glycogen synthase 1 antibody, Glycogen synthase1 antibody, GYS 1 antibody, GYS-1 antibody, GYS1 antibody, Starch synthase muscle antibody
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	GYS1
Reactivity:	Human, Mouse

PTM Specificity:	Phosphorylation
Immunogen Type:	Conjugated Peptide
Immunogen:	Human Muscle Glycogen Synthase phospho peptide corresponding to a S641 region of the human protein conjugated to Keyhole Limpet Hemocyanin (KLH).
Purity/Specificity:	Phospho Glycogen Synthase pS641 antibody is directed against human muscle glycogen synthase. The product 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. This phospho specific polyclonal antibody is specific for phosphorylated pS641 of human muscle glycogen synthase. Reactivity with non-phosphorylated human muscle glycogen synthase is less than 1% by ELISA. Cross reactivity with muscle glycogen synthase occurs in mouse tissue. Reactivity with muscle glycogen synthase from other sources has not been determined.
Relevant Links:	• UniProtKB - P13807 • NCBI - AAH03182.1 • GeneID - 2997

Application Details

Tested Applications:	ELISA, IHC, WB
Application Note:	This phospho specific polyclonal antibody was tested by immunoblotting, immunohistochemistry, and ELISA. By ELISA the antibody was found to be reactive with the phosphorylated form of the immunizing peptide and minimally reactive with the non-phosphorylated form of the immunizing peptide. Immunoblotting will detect human and mouse muscle glycogen synthase. Although not tested, this antibody is likely functional in immunoprecipitation.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:20,000 - 1:60,000
IHC:	1:1,000 - 1:5,000
WB:	1:1,000 - 1:10,000

Formulation

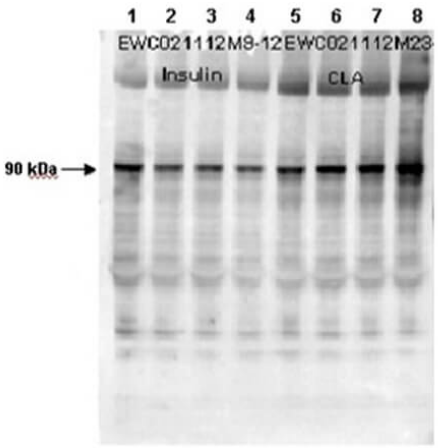
Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

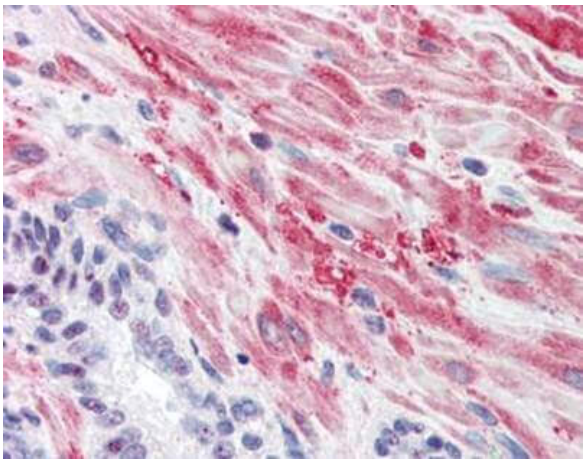
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store Phospho GYS Antibody at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

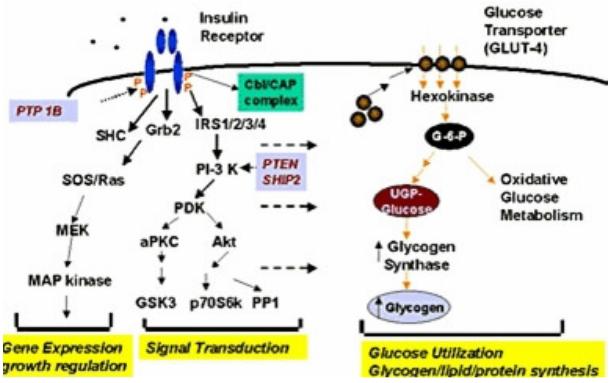
Images



Western Blot
Affinity Purified Phospho-specific pS641 antibody to human muscle Glycogen Synthase (GS). Lane 1: mouse cardiac myocyte lysate mock treated. Lane 2: mouse cardiac myocyte lysate insulin treated at 10nM for 15'. Lane 3: mouse cardiac myocyte lysate insulin treated at 100nM for 15'. Lane 4: mouse cardiac myocyte lysate insulin treated at 1nM for 15'. Lane 5: mouse cardiac myocyte lysate mock treated. Lane 6: mouse cardiac myocyte lysate CLA treated at 4nM for 45'. Lane 7: mouse cardiac myocyte lysate CLA treated at 20nM for 45'. Lane 8: mouse cardiac myocyte lysate CLA treated at 100nM for 45'. Load: 12µL. Primary Antibody: pS641 at 1:1000. Secondary Antibody: HRP conjugated Gt-a-Rabbit IgG (611-103-122) at 1:5,000 dilution preceded color development using Amersham's substrate system. Other detection methods will yield similar results.



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



Pathway
Diagram of glycogen synthase as a component of insulin signal transduction pathways.

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