Datasheet for ABIN1043894

anti-Glycogen Synthase 1 antibody (pSer641)

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Overview

Quantity:	200 µg
Target:	Glycogen Synthase 1 (GYS1)
Binding Specificity:	pSer641
Reactivity:	Human, Mouse
Host:	Rabbit
Clonality:	Polyclonal
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC)

Product Details

Purpose:	Muscle Glycogen Synthase Phospho S641 Antibody
Immunogen:	Immunogen: Human Muscle Glycogen Synthase phospho peptide corresponding to pS641 region of the human protein conjugated to Keyhole Limpet Hemocyanin (KLH). Immunogen Type: Conjugated Peptide
Isotype:	IgG
Cross-Reactivity (Details):	Phospho Glycogen Synthase pS641 antibody is directed against human muscle glycogen synthase.
Characteristics:	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
Purification:	The product was affinity purified from monospecific antiserum by immunoaffinity purification.

Product Details

Sterility:	Sterile filtered

Target Details

Target:	Glycogen Synthase 1 (GYS1)
Alternative Name:	GYS1 (GYS1 Products)
Background:	Background: Anti-Glycogen Synthase 1 pS641 antibody 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-3β 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.
Gene ID:	2997
UniProt:	P13807
Pathways:	PI3K-Akt Signaling, AMPK Signaling, Cellular Glucan Metabolic Process

Application Details

Application Notes:	Immunohistochemistry Dilution: 1:1,000 - 1:5,000 Application Note: This phospho specific polyclonal antibody was tested by immunohistochemistry, immunoblotting, 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. Western Blot Dilution: 1:500 - 1:3,000 ELISA Dilution: 1:5,000 - 1:25,000 Other: User Optimized
Restrictions:	For Research Use only

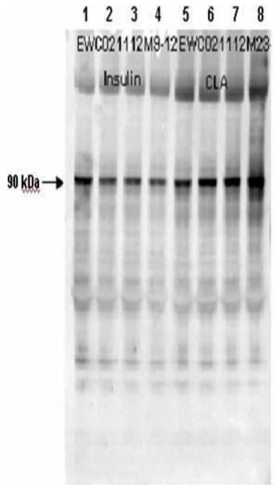
Handling

Format:	Liquid
Concentration:	1.0 mg/mL
Buffer:	Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 Stabilizer: None Preservative: None
Preservative:	Without preservative
Storage:	4 °C,-20 °C
Storage Comment:	Store Phospho GYS1 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.
Expiry Date:	12 months

Publications

Product cited in:	Kelsall, Voss, Munro, Cuthbertson, Cohen: "R3F, a novel membrane-associated glycogen targeting subunit of protein phosphatase 1 regulates glycogen synthase in astrocytoma cells in response to glucose and extracellular signals." in: **Journal of neurochemistry**, Vol. 118, Issue 4, pp. 596-610, (2011) (PubMed).

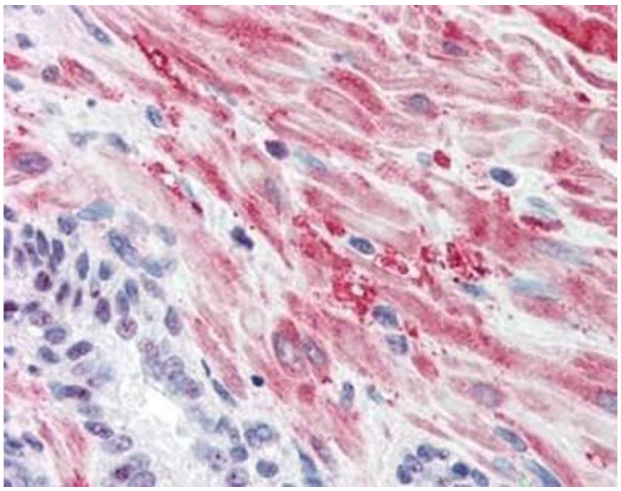
Images



Western Blotting

Image 1. Affinity Purified Phospho-specific antibody to human muscle Glycogen Synthase (GS) at pS640 was 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 ?M (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'. After washing, a 1:5,000 dilution of HRP conjugated Gt-a-Rabbit IgG

preceded color development using Amersham's substrate system. Other detection methods will yield similar results.



Immunohistochemistry

Image 2. 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.

