

Datasheet for ABIN1043894

anti-Glycogen Synthase 1 antibody (pSer640)**2** Images**1** Publication[Go to Product page](#)

Overview

Quantity:	200 µg
Target:	Glycogen Synthase 1 (GYS1)
Binding Specificity:	pSer640
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This Glycogen Synthase 1 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC), Immunoprecipitation (IP)

Product Details

Immunogen:	Human Muscle Glycogen Synthase phospho peptide corresponding to a region of the human protein conjugated to Keyhole Limpet Hemocyanin (KLH). Immunogen Type: Peptide
Isotype:	IgG
Specificity:	This affinity purified 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 pS640 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

Product Details

synthase from other sources has not been determined.

Characteristics: 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-3 β that mainly functions to phosphorylate muscle glycogen synthase. This antibody is specific for the phosphorylated form of GS at S640. Phosphorylation of GS at S640 has been associated with Antiphospholipid Antibody Syndrome.

Sterility: Sterile filtered

Target Details

Target: Glycogen Synthase 1 (GYS1)

Alternative Name: Muscle Glycogen Synthase ([GYS1 Products](#))

Background: Anti-Glycogen Synthase 1 pS640 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-3 β that mainly functions to phosphorylate muscle glycogen synthase. This antibody is specific for the phosphorylated form of GS at S640. Phosphorylation of GS at S640 has been associated with Antiphospholipid Antibody Syndrome.

Synonyms: Glycogen antibody, Glycogen synthase 1 (muscle) antibody, Glycogen synthase 1 antibody, Glycogen synthase1 antibody, GSY antibody, GYS 1 antibody, GYS antibody, GYS1 antibody, Starchsynthase muscle antibody

Gene ID: 2997

UniProt: [P13807](#)

Pathways: [PI3K-Akt Signaling](#), [AMPK Signaling](#), [Cellular Glucan Metabolic Process](#)

Application Details

Application Notes: This phospho specific polyclonal antibody was tested by immunoblotting and ELISA. By ELISA

Application Details

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 immunohistochemistry and immunoprecipitation.

Comment: Gene Name: GYS1

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 1.0 mg/mL

Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

Preservative: Without preservative

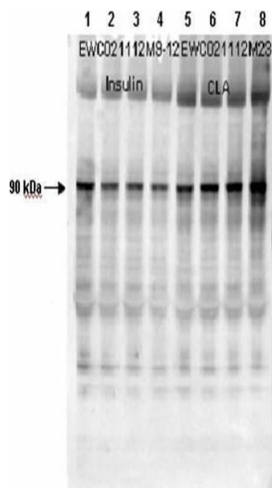
Storage: 4 °C/-20 °C

Storage Comment: Store vial at 4 °C prior to restoration. For extended storage aliquot contents and freeze at -20 °C or below. 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 date is one (1) year from date of opening.

Expiry Date: 12 months

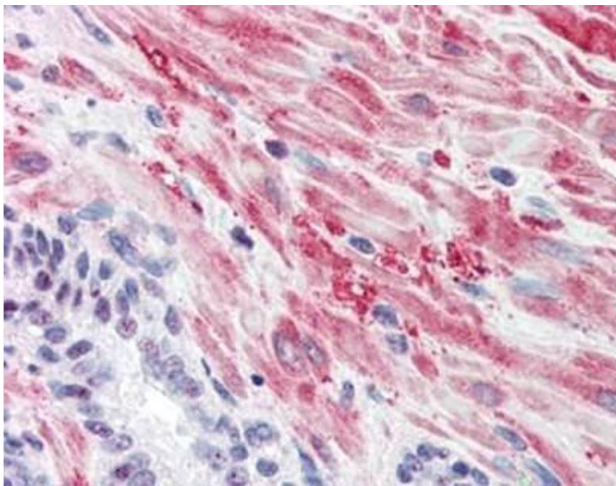
Publications

Product cited in: Baek, Eling: "Changes in gene expression contribute to cancer prevention by COX inhibitors." in: **Progress in lipid research**, Vol. 45, Issue 1, pp. 1-16, (2006) ([PubMed](#)).



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 μM (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.