

Product Specification Sheet

Product: Affinity Purified anti-Human Muscle Glycogen Synthase pS640 [Rabbit]

Code: 600-401-415

Lot # 11996B

Size: 100 µg

Physical State: Liquid (sterile filtered)

Antibody 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

Stabilizer: None

Preservative: 0.01% (w/v) Sodium Azide

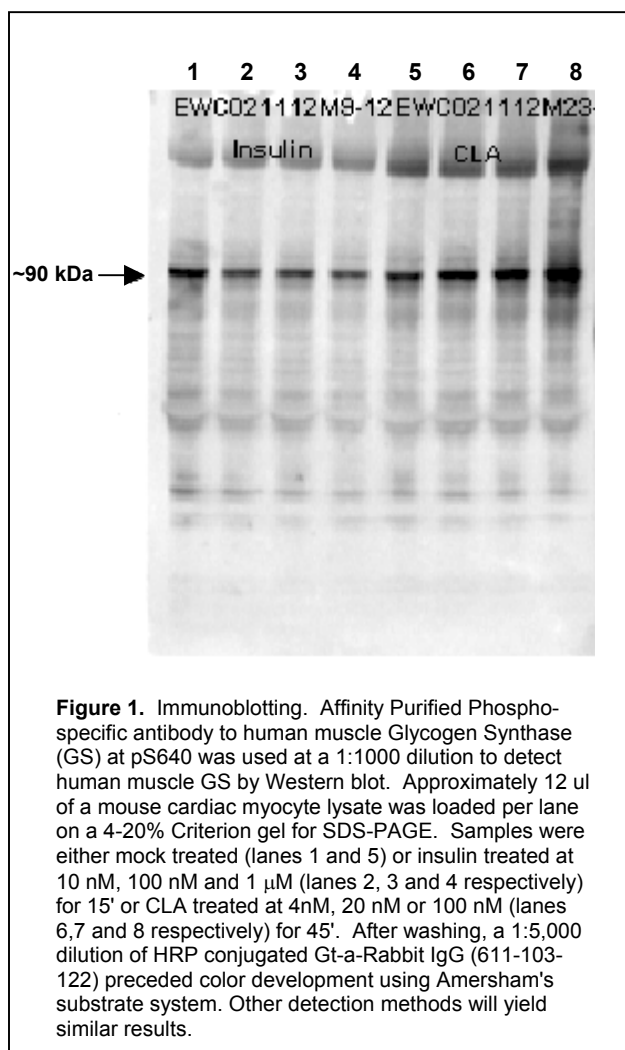
Background Information: Human muscle glycogen synthase (GS) is responsible for the biosynthesis of glycogen from phosphorylated glucose units. Mammalian liver and muscle contain GS consisting of four subunits with a total molecular weight of 360,000. GS is subject to regulation through both allosteric 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.

Application Note(s): This phospho specific polyclonal antibody was tested by 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 immunohistochemistry and immunoprecipitation.

Recommended Dilution(s): This product has been assayed against 0.1 µg of phosphorylated peptide in a standard capture ELISA using TMB (3,3',5,5'-Tetramethylbenzidine) code # TMBE-100 as a substrate for 30 minutes at room temperature. A working dilution of 1:30,000 to 1:150,000 is suggested for this product. Less than 0.2% cross-reactivity was detected against the non-phosphorylated form of the immunizing peptide. Dilute the antibody 1:1,000 for immunoblotting. Researchers should determine optimal titers for other applications.

Storage Conditions: Store vial at -20° C prior to opening. Centrifuge product if not completely clear after standing at room temperature. Dilute only prior to immediate use. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Expiration date is one (1) year from date of opening.

Purity and 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 synthase from other sources has not been determined.



Immunogen: Human Muscle Glycogen Synthase phospho peptide corresponding to a region of the human protein conjugated to Keyhole Limpet Hemocyanin (KLH).

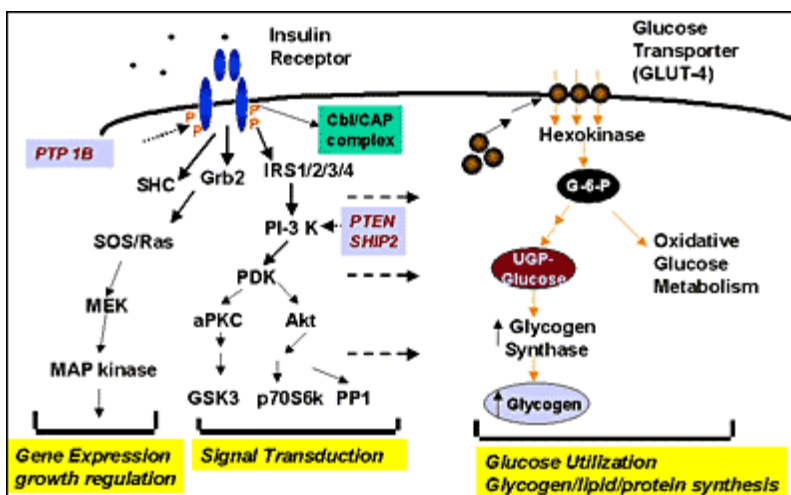


Figure 2. Diagram of glycogen synthase as a component of insulin signal transduction pathways.

Sequence information: A-Q-G-Y-R-Y-P-R-P-A-(pS)-V-P (aa 631-642)

General Reference(s):

DiGiovanna, M.P., Stern, D.F and Roussel (1996) Production of Polyclonal anti-Phosphopeptide Antibodies. *Curr. Prot. Immunol.* **11**; 6.1-6.19.

Note: This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information.