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Product datasheet for R1528P

Glycogen synthase 1 (GYS1) pSer641 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	ELISA, WB
Recommended Dilution:	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. This product has been assayed against 0.1 µg of phosphorylated peptide in a standard capture ELISA using TMB (3,3',5,5'-Tetramethylbenizidine) 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 o f the immunizing peptide. Dilute the antibody 1:1,000 for Immunoblotting.
Reactivity:	Human, Mouse
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Human Muscle Glycogen Synthase phospho peptide corresponding to a region of the human protein conjugated to Keyhole Limpet Hemocyanin (KLH).
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.

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Formulation:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 with 0.01% (w/v) Sodium Azide as preservative. State: Aff - Purified State: Liquid (sterile filtered) purified Ig fraction.
Concentration:	lot specific
Purification:	Immunoaffinity chromatography.
Conjugation:	Unconjugated
Storage:	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.
Stability:	Shelf life: one year from despatch.
Gene Name:	Homo sapiens glycogen synthase 1 (muscle) (GYS1), transcript variant 1
Database Link:	Entrez Gene 14936 MouseEntrez Gene 2997 Human P13807
Background:	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 S640. Phosphorylation of GS at S640 has been associated with Antiphospholipid Antibody Syndrome.
Synonyms:	GYS1, GYS
Protein Pathways:	Insulin signaling pathway, Starch and sucrose metabolism

Product images:

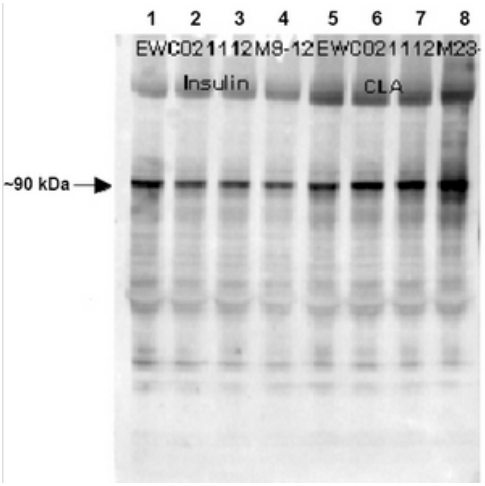

Figure 1. Immunoblotting. Affinity Purified Phosphospecific antibody to human muscle Glycogen Synthase (GS) at pS640 was used at a 1:1000 dilution to detect human muscle GS by Western blot. Approximately 12 ul of a mouse cardiac myocyte lysate was loaded per lane on a 4-20% Criterion gel for SDS-PAGE. 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.

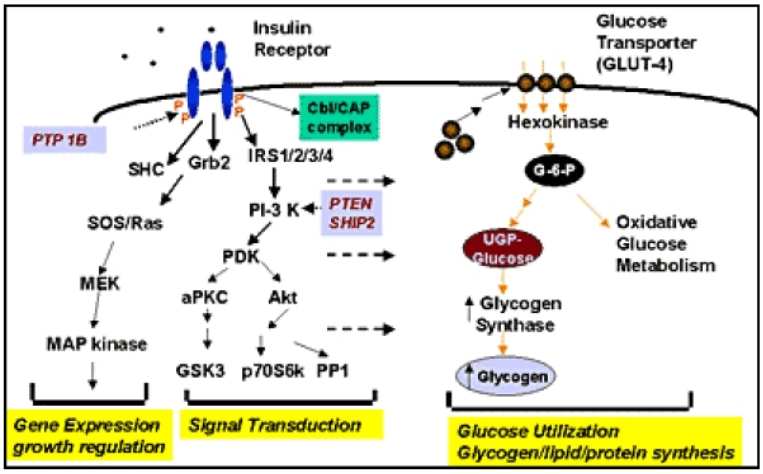

Figure 2. Diagram of glycogen synthase as a component of insulin signal transduction pathways.