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Store at -20C
#3893

Glycogen Synthase 1 (GYS1) Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 84	Source/Isotype: Rabbit	UniProt ID: #P13807	Entrez-Gene Id: 2997
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Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Glycogen Synthase 1 (GYS1) Antibody detects endogenous levels of total muscle glycogen synthase protein.

Species predicted to react based on 100% sequence homology

Horse

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence of human glycogen synthase. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Glycogen is a polysaccharide of glucose and serves as an energy storage in mammalian muscle and liver (1). Glycogen synthase catalyzes the rate-limiting step of glycogen biosynthesis and has two major isoforms in mammals: muscle isoform (glycogen synthase 1, GYS1) and liver isoform (glycogen synthase 2, GYS2), respectively (1). Glycogen synthase kinase-3α (GSK-3α) and glycogen synthase kinase-3β (GSK-3β) phosphorylate glycogen synthase at multiple sites in its C-terminus (Ser641, Ser645, Ser649, and Ser653), inhibiting its activity (2,3). Hypoxia alters glycogen metabolism including temporal changes of GYS1 expression and phosphorylation in cancer cells, suggesting the role of metabolic reprogramming of glycogen metabolism in cancer growth (1).

Background References

1. Favaro, E. et al. (2012) *Cell Metab* 16, 751-64.
2. Mora, A. et al. (2005) *FEBS Lett* 579, 3632-8.
3. Jensen, J. et al. (2012) *Am J Physiol Endocrinol Metab* 303, E82-9.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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