



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
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3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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#3886

## Glycogen Synthase (GYS1/GYS2) (15B1) Rabbit mAb

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

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

#### Application

Western Blotting  
Immunoprecipitation  
Immunohistochemistry (Paraffin)

#### Dilution

1:1000  
1:25  
1:100

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

Glycogen Synthase (GYS1/GYS2) (15B1) Rabbit mAb detects endogenous levels of total muscle and liver glycogen synthase protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the sequence surrounding Val229 of human muscle glycogen synthase.

### 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 BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)

### Cross-Reactivity Key

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

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