Store at -20°C

#94905

PhosphoPlus® Glycogen Synthase (Ser641) Antibody Duet

Support: +1-978-867-2388 (U.S.)
www.cellsignal.com/support

Orders: 877-616-2355 (U.S.)
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New 05/18

Entrez-Gene ID #2997
UniProt ID #P13807

For Research Use Only. Not For Use In Diagnostic Procedures.

Products Included	Product #	Quantity	Mol. Wt.	Isotype
P-Glycogen Synthase (S641) (D4H1B) XP® Rabbit mAb	47043	100 µl	85-90 kDa	Rabbit IgG
Glycogen Synthase (15B1) Rabbit mAb	3886	100 µl	84 kDa	Rabbit IgG

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions, and additional application protocols.

Description: PhosphoPlus® Duets from Cell Signaling Technology (CST) provide a means to assess protein activation status. Each Duet contains an activation-state and total protein antibody to your target of interest. These antibodies have been selected from CST's product offering based upon superior performance in specified applications.

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 (GYS1) and liver isoform (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).

Specificity/Sensitivity: Glycogen Synthase (15B1) Rabbit mAb detects endogenous levels of total muscle and liver glycogen synthase protein. Phospho-Glycogen Synthase (Ser641) (D4H1B) XP® Rabbit mAb recognizes endogenous levels of both muscle and liver isoforms of glycogen synthase protein only when phosphorylated at Ser641.

Source/Purification: Monoclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence surrounding Val229 of human muscle glycogen synthase and a synthetic phosphopeptide corresponding to the sequence surrounding Ser641 of human liver glycogen synthase.

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.*

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

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.

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Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.