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Product Information

Anti-Glycogen Synthase 2
produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200228**

Product Description

Anti-Glycogen Synthase 2 is produced in rabbit using as immunogen a synthetic peptide located at the C-terminus of mouse glycogen synthase 2 (GYS2) (GeneID 232493), conjugated to KLH. The corresponding sequence is highly conserved in rat GYS2 (single amino acid substitution) and in human GYS2 (84% identity). The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Glycogen Synthase 2, specifically recognizes mouse and rat glycogen synthase 2. The antibody can be used in several immunochemical techniques including immunoblotting (~85 kDa) and immunohistochemistry. An additional band at ~43 kDa may be observed by immunoblotting in some cell extracts. Detection of the GYS2 band by immunoblotting is specifically inhibited by the GYS2 immunizing peptide.

Glycogen synthase (GS), the rate-limiting enzyme for glycogen biosynthesis, catalyzes the incorporation of α-1,4-linked glucose units into glycogen chains. In mammals, two GS isoforms have been identified, the muscle GS form, glycogen synthase 1 (GYS1) and the liver specific form, glycogen synthase 2 (GYS2, LGS).[1] The muscle GS form is also expressed in several other tissues, including adipose tissue, kidney, spleen and in the nervous system. Both muscle and liver GS forms are highly regulated by phosphorylation, glucose availability, glycogen levels and allosteric effectors.[1,2] In response to hormonal stimuli, GS is phosphorylated on up to nine serine residues resulting in progressive inactivation of the two isoforms.[2] GS activity is stimulated by insulin in liver, muscle and adipose tissues via dephosphorylation and allosteric activation, resulting in GS translocation between various subcellular compartments.[3-6] Mutations in hepatic glycogen synthase are involved in a rare form of inherited glycogen storage disease in childhood, known as GSD0, characterized by ketotic hypoglycemia.[7]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1.5-3 µg/mL is recommended using mouse liver extracts (S1 fraction).

Immunohistochemistry: a working concentration of 10-20 µg/mL is recommended using formalin-fixed paraffin-embedded rat liver.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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7. Weinstein, D.A., et al., *Mol. Genet. Metab.*, **87**, 284-288 (2006).

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