For Research Use Only

Phospho-GYS (Ser641) Recombinant antibody

Catalog Number:80102-2-RR

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Basic Information

Catalog Number:
80102-2-RR

Concentration:
1000 μg/ml

Source:
Rabbit

Isotype:
IgG

GenBank Accession Number:
BC007688

GeneID (NCBI):
2997

UNIPROT ID:
P13807

Full Name:
glycogen synthase 1 (muscle)

Calculated MW:
84 kDa

Observed MW:
84 kDa

Purification Method:
Protein A purification

CloneNo.:
250744A11

Recommended Dilutions:
WB: 1:1000-1:4000

Applications

Tested Applications:
WB, ELISA

Species Specificity:
human, mouse

Positive Controls:

WB : NIH/3T3 cells, λ phosphatase NIH/3T3 cells

Background Information

Glycogen synthase 1 (GYS1, GS) catalyzes the key step of glycogen synthesis and plays an important role in glycogen metabolism in the liver and muscle. In kidney tissues, glycogen synthase 1 (GYS1) is the most important rate-limiting enzyme functioning in the last step of glycogen synthesis. Pathologically, its deficiency has been shown to cause muscle glycogen storage disease type 0 and death. Studies of tumors showed that GYS1 was rapidly induced under hypoxic conditions and positively correlated with glycogen accumulation in glioblastoma, breast, and colon cancer cell lines. GYS1 is phosphorylated at nine sites, and insulin stimulates the dephosphorylation of glycogen synthase. Insulin stimulates dephosphorylation of glycogen synthase via PKB-mediated phosphorylation of GSK3. Phosphorylation of GSK3 decreases kinase activity, which will decrease phosphorylation of GS and increase glycogen synthase fractional activity. (PMID: 32802186, PMID: 30443599, PMID:22232606)

Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
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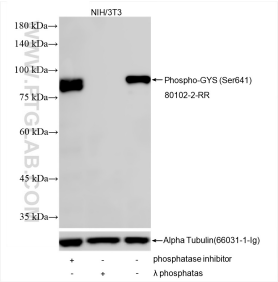
Selected Validation Data



Non-treated NIH/3T3 cells, phosphatase inhibitor treated and λ phosphatase NIH/3T3 cells were subjected to SDS PAGE followed by western blot with 80102-2-RR (Phospho-GYS (Ser641) antibody) at dilution of 1:2000 incubated at room temperature for 1.5 hours. The membrane was stripped and re-blotted with Alpha Tubulin antibody (66031-1-Ig) as loading control.