Anti-Phospho-Glycogen synthase 1 (S641) Antibody [SR46-06]

ET1602-13

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, IP
Molecular Wt:	Predicted band size: 84 kDa
Clone number:	SR46-06

Description: Glycogen [starch] synthase belongs to the mammalian/fungal glycogen synthase family of proteins. Two forms of this protein exist, a liver form and a muscle form, both of which have the same function in the glycogen biosynthesis pathway. Glycogen synthase transfers the glycosyl residue from UDP-Glucose to the nonreducing end of ?-1,4-glucan. The liver glycogen synthase protein is truncated by 34 amino acids compared to the muscle form. However, these enzymes differ significantly in their amino- and carboxyl-terminal regions. Muscle glycogen synthase serves to fuel muscular activity only and is regulated by muscle contraction and by catecholamines. Liver glycogen synthase mediates blood glucose homeostasis in response to nutritional cues. Defects in the gene encoding liver glycogen synthase results in glycogen storage disease type 0 (GSD0), a rare form of fasting ketotic hypoglycemia.

Immunogen: Synthetic phospho-peptide corresponding to residues surrounding Ser641 of Human Glycogen synthase 1.

Positive control: SK-Br-3 cell lysate, A431 cell lysate, HepG2 cell lysate, Mouse liver tissue lysate, A549, NIH/3T3, mouse liver tissue, mouse skeletal muscle tissue, mouse smooth muscle tissue, rat skeletal muscle tissue.

Subcellular location: Cytoplasm

Database links: SwissProt: P13807 Human | Q9Z1E4 Mouse
Entrez Gene: 690987 Rat

Recommended Dilutions:

WB	1:500
IF-Cell	1:50
IHC-P	1:50-1:200
IP	Use at an assay dependent concentration.

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

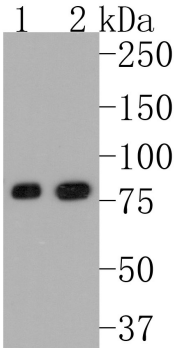

Fig1: Western blot analysis of Phospho-Glycogen synthase 1 (S641) on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (ET1602-13, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:200,000 dilution was used for 1 hour at room temperature.
Positive control:
Lane 1: SK-Br-3 cell lysate
Lane 2: A431 cell lysate

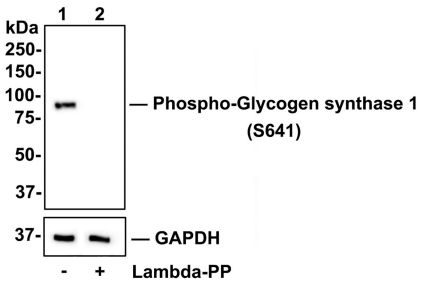

Fig2: Western blot analysis of Phospho-Glycogen synthase 1 (S641) on HepG2 cell lysates.

Lane 1: HepG2 cells, whole cell lysate, 10ug/lane
Lane 2: HepG2 cells treated with 2.8ug/ul lambda-PP for 30 minutes, whole cell lysates, 10ug/lane

All lanes :
Anti-Phospho-Glycogen synthase 1 (S641) antibody (ET1602-13) at 1/500 dilution. Anti-GAPDH antibody (ET1601-4) at 1/10,000 dilution. Goat Anti-Rabbit IgG H&L (HRP) (HA1001) at 1/200,000 dilution.

Predicted band size: 84 kDa
Observed band size: 84 kDa

Blocking and diluting buffer: 5% BSA.

Exposure time: 1 minute 34 seconds

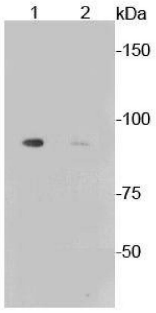

Fig3: Western blot analysis of Phospho-Glycogen synthase 1 (S641) on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (ET1602-13, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:5,000 dilution was used for 1 hour at room temperature.
Positive control:
Lane 1: Mouse liver tissue lysate, untreated
Lane 2: Mouse liver tissue lysate, treated with AP

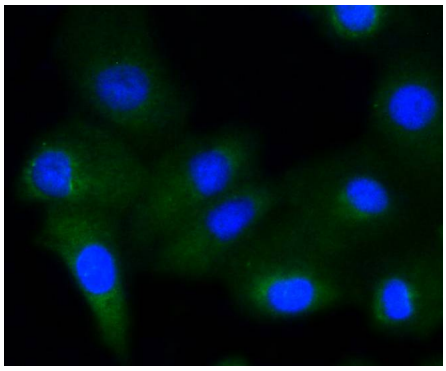

Fig4: ICC staining of Phospho-Glycogen synthase 1 (S641) in A549 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the primary antibody (ET1602-13, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

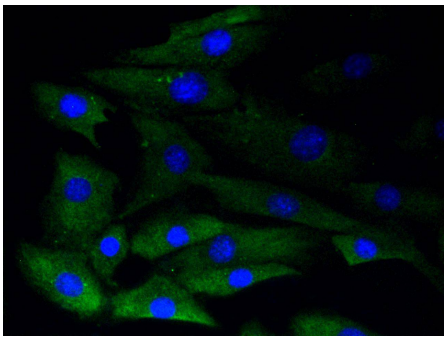

Fig5: ICC staining of Phospho-Glycogen synthase 1 (S641) in NIH/3T3 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the primary antibody (ET1602-13, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

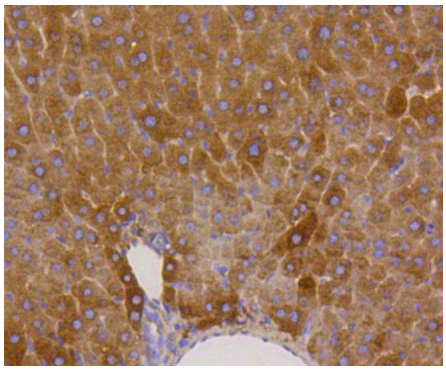

Fig6: Immunohistochemical analysis of paraffin-embedded mouse liver tissue using anti-Phospho-Glycogen synthase 1 (S641) antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1602-13, 1/50) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

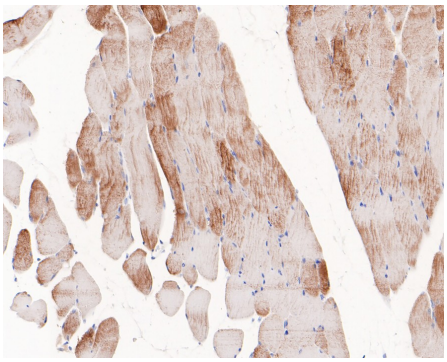

Fig7: Immunohistochemical analysis of paraffin-embedded mouse skeletal muscle tissue with Rabbit anti-Phospho-Glycogen synthase 1 (S641) antibody (ET1602-13) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1602-13) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

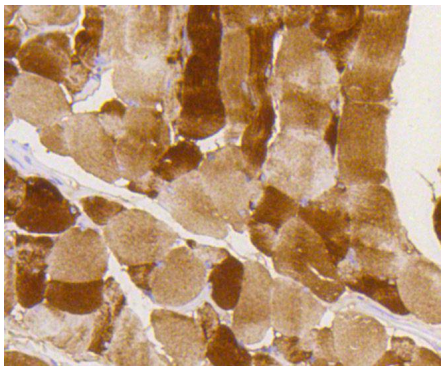

Fig8: Immunohistochemical analysis of paraffin-embedded mouse smooth muscle tissue using anti-Phospho-Glycogen synthase 1 (S641) antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1602-13, 1/50) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

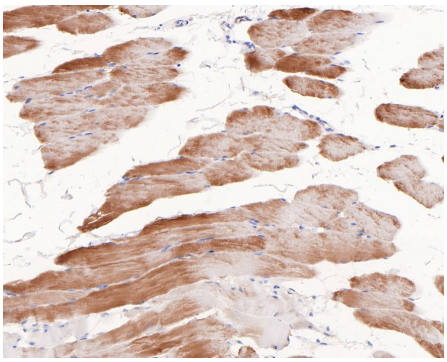

Fig9: Immunohistochemical analysis of paraffin-embedded rat skeletal muscle tissue with Rabbit anti-Phospho-Glycogen synthase 1 (S641) antibody (ET1602-13) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1602-13) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Zhang JS et al. Differential activity of GSK-3 isoforms regulates NF-kB and TRAIL- or TNFa induced apoptosis in pancreatic cancer cells. Cell Death Dis 5:e1142 (2014).
2. Reichelt ME et al. Myocardial glycophagy - A specific glycogen handling response to metabolic stress is accentuated in the female heart. J Mol Cell Cardiol 65C:67-75 (2013).