**BACKGROUND**

Voltage-gated sodium channels drive the initial depolarization phase of the cardiac action potential, therefore, critically determine conduction of excitation through the heart. As a member of the NAD-dependent glycerol-3-phosphate dehydrogenase family, glycerol-3-phosphate dehydrogenase 1 (GPD1) is a 349 amino acid cytoplasmic protein that catalyzes the formation of glycerol-3-phosphate and NADH from sn-glycerol-3-phosphate and NAD^+^.

Inhibited by zinc ions and sulfate, GPD1 exists as a homodimer and may have similar functions as GPD1L (glycerol-3-phosphate dehydrogenase-1-like). GPD1L is thought to affect trafficking of the cardiac sodium current to the cell surface and mutations in the gene encoding GPD1L are thought to be involved in sudden infant death syndrome (SIDS).

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: GPD1 (human) mapping to 12q13.12; Gpd1 (mouse) mapping to 15 F1.

**SOURCE**

GPD1 (H-10) is a mouse monoclonal antibody raised against amino acids 300-349 mapping at the C-terminus of GPD1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GPD1 (H-10) is available conjugated to agarose (sc-393161 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393161 HRP), 200 µg/ml, for WB, anti-IgG (sc-393161 PE), fluorescein (sc-393161 FITC), Alexa Fluor® 488 (sc-393161 AF488), Alexa Fluor® 546 (sc-393161 AF546), Alexa Fluor® 594 (sc-393161 AF594) or Alexa Fluor® 647 (sc-393161 AF647), 200 µg/ml, for WB (RGB), IF, HICP and FCM; and to either Alexa Fluor® 680 (sc-393161 AF680) or Alexa Fluor® 790 (sc-393161 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

GPD1 (H-10) is recommended for detection of GPD1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GPD1 siRNA (h): sc-95691, GPD1 siRNA (m): sc-145683, GPD1 shRNA Plasmid (h): sc-95691-SH, GPD1 shRNA Plasmid (m): sc-145683-SH, GPD1 shRNA (h) Lentiviral Particles: sc-95691-V and GPD1 shRNA (m) Lentiviral Particles: sc-145683-V.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).


**DATA**

GPD1 (H-10): sc-393161. Western blot analysis of GPD1 expression in non-transfected: sc-117752 (A) and human GPD1 transfected: sc-114223 (B) 293T whole cell lysates and mouse liver (C) and human liver (D) tissue extracts.

GPD1 (H-10): sc-393161. Western blot analysis of GPD1 expression in Hep G2 whole cell lysate (A) and rat thymus tissue extract (B).

**STORAGE**

Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.