SANTA CRUZ BIOTECHNOLOGY, INC.

GPI (H-10): sc-365066

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glucose-6-phosphate isomerase (GPI) has many other names, including phosphohexose isomerase (PHI), neuroleukin (NLK) and spermantigen-36 (SA-36). GPI is a cytoplasmic homodimer belonging to the GPI family. It is a neurotrophic factor for spinal and sensory neurons and is involved in glycolysis and gluconeogenesis. Defects or mutations in GPI can cause hereditary non-spherocytic hemolytic anemia (HA), hydrops fetalis, immediate neonatal death and neurological impairment.

REFERENCES

1. Beutler, E., et al. 1997. Glucosephosphate isomerase (GPI) deficiency mutations associated with hereditary nonspherocytic hemolytic anemia (HNSHA). Blood Cells Mol. Dis. 23: 402-409.
2. Kugler, W., et al. 1998. Molecular basis of neurological dysfunction coupled with haemolytic anaemia in human glucose-6-phosphate isomerase (GPI) deficiency. Hum. Genet. 103: 450-454.

CHROMOSOMAL LOCATION

Genetic locus: GPI (human) mapping to 19q13.11; Gpi1 (mouse) mapping to 7 B1.

SOURCE

GPI (H-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 67-102 near the N-terminus of GPI of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365066 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GPI (H-10) is recommended for detection of GPI 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). GPI (H-10) is also recommended for detection of GPI in additional species, including porcine.

Suitable for use as control antibody for GPI siRNA (h): sc-43810, GPI siRNA (m): sc-44813, GPI siRNA (r): sc-270226, GPI shRNA Plasmid (h): sc-43810-SH, GPI shRNA Plasmid (m): sc-44813-SH, GPI shRNA Plasmid (r): sc-270226-SH, GPI shRNA (h) Lentiviral Particles: sc-43810-V, GPI shRNA (m) Lentiviral Particles: sc-44813-V and GPI shRNA (r) Lentiviral Particles: sc-270226-V.

Molecular Weight (predicted) of GPI: 63 kDa.

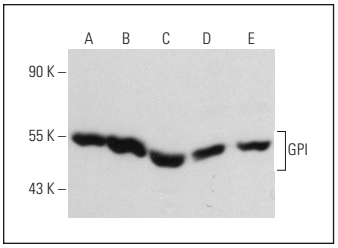
Molecular Weight (observed) of GPI: 55 kDa.

Positive Controls: NCI-H292 whole cell lysate: sc-364179, HeLa whole cell lysate: sc-2200 or Sol8 cell lysate: sc-2249.

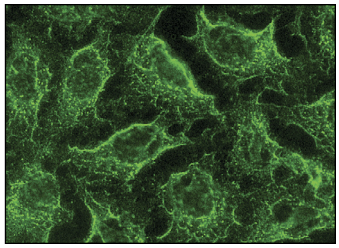
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GPI (H-10): sc-365066. Western blot analysis of GPI expression in HeLa (**A**), NCI-H292 (**B**), NIH:OVCAR-3 (**C**), Sol8 (**D**) and Neuro-2A (**E**) whole cell lysates.



GPI (H-10): sc-365066. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Zhong, Z., et al. 2019. PORCN inhibition synergizes with PI3K/mTOR inhibition in Wnt-addicted cancers. Oncogene 38: 6662-6677.
2. Herrmann, A.L., et al. 2021. Delineating the Switch between senescence and apoptosis in cervical cancer cells under ciclopirox treatment. Cancers 13: 4995.
3. Shen, J., et al. 2022. Histone chaperone FACT complex coordinates with HIF to mediate an expeditious transcription program to adapt to poorly oxygenated cancers. Cell Rep. 38: 110304.
4. Weber, C.M., et al. 2022. Induced pluripotent stem cell-derived cells model brain microvascular endothelial cell glucose metabolism. Fluids Barriers CNS 19: 98.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.