

PIG-U (H-45): sc-99051

BACKGROUND

Phosphatidylinositol-glycans (PIGs) are multi-pass transmembrane proteins that localize to the endoplasmic reticulum. PIGs are crucial for the synthesis of N-acetylglucosaminyl-phosphatidylinositol, a very early intermediate in glycosylphosphatidylinositol (GPI)-anchor biosynthesis. PIGs play a role in the recognition of either the GPI attachment signal or the lipid portion of GPI. PIG-U (CDC91L1) is a critical part of GPI transamidase (GPIT), a multisubunit membrane-bound complex also consisting of Gaa1, Gpi8, PIG-S, and PIG-T. GPIT recognizes C-terminal signal sequences on proproteins and replaces them with specific GPI lipids. The PIG-U gene is oncogenic and is implicated in the development of human bladder cancer. Overexpression of PIG-U causes increased expression of the urokinase receptor (uPAR), a GPI-anchored protein, thereby amplifying signal transducer and activator of transcription (STAT-3) phosphorylation in bladder cancer cells, which may lead to cancer.

REFERENCES

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- Hong, Y., et al. 2003. Human PIG-U and yeast Cdc91p are the fifth subunit of GPI transamidase that attaches GPI-anchors to proteins. *Mol. Biol. Cell* 14: 1780-1789.
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- Vainauskas, S. and Menon, A.K. 2004. A conserved proline in the last transmembrane segment of Gaa1 is required for glycosylphosphatidylinositol (GPI) recognition by GPI transamidase. *J. Bio. Chem.* 279: 6540-6545.

CHROMOSOMAL LOCATION

Genetic locus: PIGU (human) mapping to 20q11.22; Pigu (mouse) mapping to 2 H1.

SOURCE

PIG-U (H-45) is a rabbit polyclonal antibody raised against amino acids 4-48 mapping near the N-terminus of PIG-U of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

PIG-U (H-45) is recommended for detection of PIG-U of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 PIG-U siRNA (h): sc-61351, PIG-U siRNA (m): sc-61352, PIG-U shRNA Plasmid (h): sc-61351-SH, PIG-U shRNA Plasmid (m): sc-61352-SH, PIG-U shRNA (h) Lentiviral Particles: sc-61351-V and PIG-U shRNA (m) Lentiviral Particles: sc-61352-V.

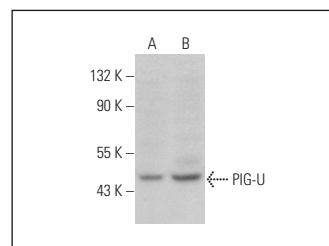
Molecular Weight of PIG-U: 50 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or RAW 309 Crat 1 whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PIG-U (H-45) : sc-99051. Western blot analysis of PIG-U expression in RAW 309 Crat 1 (A) and NIH/3T3 (B) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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