

PIG-U (N-20): sc-49411

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 (Stat3) phosphorylation in bladder cancer cells, which may lead to cancer.

REFERENCES

- Lewis, A.J., et al. 1979. The anti-inflammatory profile of dapsone in animal models of inflammation. *Agents Actions* 8: 578-586.
- Rondeau, E., et al. 1991. Nordihydroguaiaretic acid inhibits urokinase synthesis by phorbol myristate acetate-stimulated LLC-PK1 cells. *Biochim. Biophys. Acta* 1055: 165-172.
- 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.
- Nagamune, K., et al. 2003. GPI transamidase of *Trypanosoma brucei* has two previously uncharacterized (trypanosomatid transamidase 1 and 2) and three common subunits. *Proc. Natl. Acad. Sci. USA* 100: 10682-10687.
- Guo, Z., et al. 2004. CDC91L1 (PIG-U) is a newly discovered oncogene in human bladder cancer. *Nat. Med.* 10: 374-381.
- Vainauskas, S., et al. 2004. A conserved proline in the last transmembrane segment of Gaa1 is required for glycosylphosphatidylinositol (GPI) recognition by GPI transamidase. *J. Biol. Chem.* 279: 6540-6545.
- Montie, J.E., et al. 2005. CDC91L1 (PIG-U) is a newly discovered oncogene in human bladder cancer. *J. Urol.* 174: 869-870.
- Ratliff, T.L. 2005. CDC91L1 (PIG-U) mRNA expression in urothelial cell carcinomas. *J. Urol.* 174: 2066.
- Schultz, I.J., et al. 2005. CDC91L1 (PIG-U) mRNA expression in urothelial cell carcinomas. *Int. J. Cancer* 116: 282-284.

CHROMOSOMAL LOCATION

Genetic locus: CDC91L1 (human) mapping to 20q11.22; Cdc9111 (mouse) mapping to 2 H1.

SOURCE

PIG-U (N-20) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-49411 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PIG-U (N-20) 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), 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).

PIG-U (N-20) is also recommended for detection of PIG-U in additional species, including equine, canine, bovine and porcine.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.