

## PIG-A (K-19): sc-49482

### 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 (GlcNAc-PI), a very early intermediate in glycosylphosphatidylinositol (GPI)-anchor biosynthesis. The PIG proteins are components of the GPI transamidase complex and play a role in the recognition of either the GPI attachment signal or the lipid portion of GPI. Phosphatidylinositol glycan class A (PIG-A), an endoplasmic reticulum (ER) transmembrane protein, contains a large cytoplasmic domain, which displays homology to the bacterial GlcNAc transferase RfaK, and a small luminal domain, which plays a role in targeting the PIG-A protein to the rough ER. PIG-A associates with PIG-C, PIG-H, PIG-P and PIG-Q, as well as DPM2, and interacts directly with PIG-Y. Defects in PIG-A cause paroxysmal nocturnal hemoglobinuria (PNH), an acquired genetic hematologic disorder.

### REFERENCES

- Miyata, T., Takeda, J., Iida, Y., Yamada, N., Inoue, N., Takahashi, M., Maeda, K., Kitani, T. and Kinoshita, T. 1993. The cloning of PIG-A, a component in the early step of GPI-anchor biosynthesis. *Science* 259: 1318-1320.
- Takeda, J., Miyata, T., Kawagoe, K., Iida, Y., Endo, Y., Fujita, T., Takahashi, M., Kitani, T. and Kinoshita, T. 1993. Deficiency of the GPI anchor caused by a somatic mutation of the PIG-A gene in paroxysmal nocturnal hemoglobinuria. *Cell* 73: 703-711.
- Watanabe, R., Kinoshita, T., Masaki, R., Yamamoto, A., Takeda, J. and Inoue, N. 1996. PIG-A and PIG-H, which participate in glycosylphosphatidylinositol anchor form a protein complex in the endoplasmic reticulum. *J. Biol. Chem.* 271: 26868-26875.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 311770. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Hu, R., Mukhina, G.L., Piantadosi, S., Barber, J.P., Jones, R.J. and Brodsky, R.A. 2005. PIG-A mutations in normal hematopoiesis. *Blood* 105: 3848-3854.
- Hanaoka, N., Kawaguchi, T., Horikawa, K., Nagakura, S., Mitsuya, H. and Nakakuma, H. 2006. Immunoselection by natural killer cells of PIG-A mutant cells missing stress-inducible ULBP. *Blood* 107: 1184-1191.

### CHROMOSOMAL LOCATION

Genetic locus: PIGA (human) mapping to Xp22.2; Piga (mouse) mapping to X F5.

### SOURCE

PIG-A (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PIG-A of human origin.

### STORAGE

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

### 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-49482 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PIG-A (K-19) is recommended for detection of PIG-A isoforms 1 and 2 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-A (K-19) is also recommended for detection of PIG-A isoforms 1 and 2 in additional species, including canine and bovine.

Suitable for use as control antibody for PIG-A siRNA (h): sc-61349, PIG-A siRNA (m): sc-61350, PIG-A shRNA Plasmid (h): sc-61349-SH, PIG-A shRNA Plasmid (m): sc-61350-SH, PIG-A shRNA (h) Lentiviral Particles: sc-61349-V and PIG-A shRNA (m) Lentiviral Particles: sc-61350-V.

Molecular Weight of PIG-A: 54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

### 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.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **PIG-A (H-6): sc-374194**, our highly recommended monoclonal alternative to PIG-A (K-19).