

# PIG-A (H-6): sc-374194

## 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.

## REFERENCE

- Miyata, T., et al. 1993. The cloning of PIG-A, a component in the early step of GPI-anchor biosynthesis. *Science* 259: 1318-1320.
- Takeda, J., et al. 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., et al. 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/>

## CHROMOSOMAL LOCATION

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

## SOURCE

PIG-A (H-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 435-471 near the C-terminus of PIG-A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PIG-A (H-6) is available conjugated to agarose (sc-374194 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374194 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374194 PE), fluorescein (sc-374194 FITC), Alexa Fluor® 488 (sc-374194 AF488), Alexa Fluor® 546 (sc-374194 AF546), Alexa Fluor® 594 (sc-374194 AF594) or Alexa Fluor® 647 (sc-374194 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374194 AF680) or Alexa Fluor® 790 (sc-374194 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374194 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

PIG-A (H-6) is recommended for detection of PIG-A isoforms 1 and 2 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

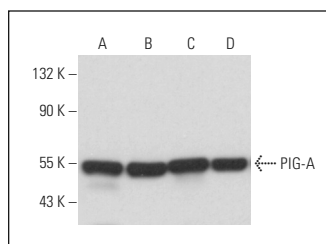
PIG-A (H-6) is also recommended for detection of PIG-A in additional species, including canine, porcine and avian.

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.

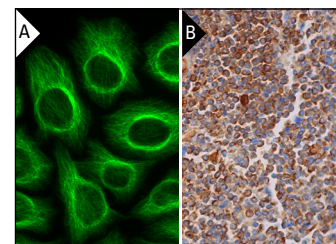
Molecular Weight of PIG-A: 54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, ACHN whole cell lysate: sc-364365 or 3T3-L1 cell lysate: sc-2243.

## DATA



PIG-A (H-6): sc-374194. Western blot analysis of PIG-A expression in HeLa (A), Y79 (B), ACHN (C) and 3T3-L1 (D) whole cell lysates.



PIG-A (H-6): sc-374194. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white pulp and cells in red pulp (B).

## SELECT PRODUCT CITATIONS

- Tarailo-Graovac, M., et al. 2015. The genotypic and phenotypic spectrum of PIGA deficiency. *Orphanet J. Rare Dis.* 10: 23.

## 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](http://www.scbt.com) for detailed protocols and support products.

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